SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION
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November 30, 2012

TO: Commissioners and Alternates

FROM: Lawrence J. Goldzband, Executive Director (415/352-36, lgoldzband@bcdc.ca.gov)
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SUBJECT: **Staff Recommendation on Material Amendment No. Three to BCDC Permit No. 2004.008; California Department of Fish and Game; Improvements to and Enhanced Management of Ponds 6, 6A, 7, 7A and 8**
(For Commission consideration on December 6, 2012)

Recommendation Summary

The staff recommends that the Commission approve Material Amendment No. Three to BCDC Permit No. 2004.008, which, as conditioned, would result in the following:

1. Enhanced management capability of 1,900 acres of "managed pond" habitat by installing water control structures and levee improvements;
2. Slow and safe dilution of bittern over a 7- to 10-year period with gradual release into the Napa River;
3. Improvements to existing, informal public access including widening 11,674 feet of levee pathways, installing an ADA-accessible surface to the pathways and placing interpretative signage and seating; and
4. Monitoring to provide information to facilitate adaptive management and track the success of the project relative to target habitat goals.

The project will allow for the enhanced management of "managed pond" habitat for several species of waterfowl, shorebirds and special-status bird species, reduce the risk of water quality impacts through the safe and controlled dilution of bittern, and improve public access and recreational opportunities.

Staff Note

Because the project involves a material amendment to an existing permit, the format of the recommendation is different than recommendations for new permit applications. The recommendation includes the language of the existing permit as well as the changes proposed by the amendment. Language to be deleted from the permit has been ~~struck through~~ and language to be added to the amended permit has been underlined. Language that has neither been ~~struck through~~ nor underlined is language of the existing permit that will remain unchanged with the adoption of Amendment No. Three.

Staff Recommendation

The staff recommends that the Commission adopt the following resolution:

I. Authorization

A. Subject to the conditions stated below, the permittee, the California Department of Fish and Game (CDFG), is hereby authorized to construct the following improvements associated with the Napa Sonoma Marshes Salt Pond Restoration Project, in former salt ponds 1, 1A, 2, 2A, 3, 4 and 5, the Napa Plant Site-Ponds 9-10 [North Unit], Ponds W1, W2, W3 [Central Unit], ~~and~~ Ponds CB1-CB9, B1-B3 and Unit 3 [South Unit], and Ponds 6, 6A, 7, 7A and 8, in the Napa Sonoma Marshes Wildlife Area, ~~just~~ north of Highway 37 and west and east of the Napa River, in Napa and Contra Costa Counties:

1. **Ponds 1 through 5:**

In the Commission's salt pond jurisdiction,

In Pond 1, convert a former salt pond to managed wetlands by doing the following:

(a) Repair, use and maintain an 8,850-foot-long section of levee/service road along the pond's eastern boundary, a 1,340-foot-long section of levee along the northern boundary and a 1,695-foot-long section along the western boundary;

(b) Breach the levee between Pond 1 and Pond 1A in five locations generating 63,600 cubic yards of material and use the material for levee repairs and the creation of bird roosting islands in Ponds 1 and 1A;

(c) Repair, use and maintain an existing tide gate structure along the southern boundary of the pond;

(d) Install, use and maintain four (4) sections of three- to five-foot-in-diameter pipe (totaling 215 feet in length) along the northern boundary of Pond 1 and South Slough to improve drainage and connectivity between the two water bodies;

(e) Install, use and maintain a 3,948-square-foot, 8-space (including 1 handicap accessible parking space) public access parking lot adjacent to the southeast corner of the pond. Improvements would include installation of a new, seven-foot-tall, chain link fence and gate with a handicap accessible opening and interpretative and informational signage;

(f) Excavate up to 100,000 cubic yards of material from Pond 1 to improve circulation in the Pond and place the material at Cullinan Ranch pursuant to BCDC Consistency Determination No. CN 5-04, Amendment No. One (Amendment No. Two);

(g) Raise a 7,000-foot-long section of levee along the eastern perimeter of Pond 1 to 8.0 feet NGVD using 20,000 cubic yards of suitable, clean fill material (Amendment No. Two);

(h) Install, use and maintain two water control structures, each 4-feet-in diameter and 100 feet long, (400 square feet each) totaling approximately 800 square feet that will enable better management of water levels in Pond 1 (Amendment No. Two);

(i) Place approximately 6,200 cubic yards of material over an approximately 47,000-square-foot area (1.1 acre) to construct an earthen viewing platform near the Pond 1 parking area (partially authorized under Material Amendment No. One to BCDC Consistency Determination No. CN 5-04) (Amendment No. Two);

(j) Construct, use and maintain a portion of a 1,350-square-foot (0.03 acre) gravel overlook area at the north end of the Pond 1 levee (partially authorized under Material Amendment No. One to BCDC Consistency Determination No. CN 5-04) (Amendment No. Two);

(k) Improve, use and maintain a total of approximately 7,000 linear feet of existing levee trail by installing 600 linear feet of ADA-compliant surfacing at the southern end of the trail and 6,400 linear feet of gravel along the remaining trail section (partially authorized under Material Amendment No. One to BCDC Consistency Determination No. CN 5-04) (Amendment No. Two);

(l) Construct, use and maintain a portion of a 1,200-square-foot (0.03 acre) ADA-accessible wooden pile-supported fishing pier (partially authorized under Material Amendment No. One to BCDC Consistency Determination No. CN 5-04) (Amendment No. Two); and

(m) Construct, use and maintain a portion of a 1,950-square-foot (0.04 acre) ADA-accessible wooden pile-supported kayak launch (partially authorized under Material Amendment No. One to BCDC Consistency Determination No. CN 5-04) (Amendment No. Two).

In Pond 1A, convert a former salt pond to managed wetlands by doing the following:

(a) Repair, use and maintain a 5,375-foot-long section of levee/service road along the western boundary and a 1,870-foot-long section of levee along the eastern boundary of the pond; and

(b) Install, use and maintain a four-foot-in-diameter, 80-foot-long section of pipe to South Slough to improve drainage and connectivity to the Slough;

In Pond 2, convert a former salt pond to managed wetlands by doing the following:

(a) Repair, use and maintain an 11,680-foot-long section of levee along the northern boundary of the pond;

(b) Replace, use and maintain a 48-inch-in-diameter, 200-foot-long, existing intake/outfall structure adjacent to the All American Canal; and

(c) Abandon in place an existing, approximately 300-foot-long siphon and either fill it with concrete or cap both ends.

Within the Commission's 100-foot shoreline band jurisdiction:

Adjacent to Highway 37 and just south of Pond 1:

(a) Place approximately 15,200 cubic yards of material over an approximately 126,324-square-foot area (2.9 acre) adjacent to Highway 37 to construct a 750-foot-long section of an acceleration lane and a 90-foot-long section of deceleration lane (partially authorized under Material Amendment No. One to BCDC Consistency Determination No. CN 5-04) (Amendment No. Two) that will allow for improved access to and from the existing public access parking lot adjacent to Pond 1;

In the Commission's salt pond and certain waterways jurisdiction:

In the All American Canal, convert a former water conveyance ditch to tidal marsh by doing the following:

(a) Lower a 2,000-foot-long section of levee along the southern portion of the canal, connecting it with South Slough, and use the excavated material to repair nearby levees on Pond 2 and fill existing borrow ditches;

(b) Breach the eastern levee in four locations, generating 17,000 cubic yards of material, thereby hydrologically connecting the canal with tidal marsh habitat currently found in Pond 2A; and

(c) Repair, use and maintain a 530-foot-long section of levee along the northern boundary of the Canal at Pond 2A.

In Pond 3, convert a former salt pond to tidal marsh by doing the following:

(a) Prior to additional levee breaching, excavate up to 3,500 linear feet of starter channels and either place the material on pond bottoms, use the excavated material to construct berms adjacent to the channels or to create ditch blocks;

(b) Breach the existing levee in up to nine additional locations and excavate pilot channels to improve tidal inundation from South Slough, and the Napa River thereby improving water circulation and tidal flows. Place the excavated material along the pond bottom to create elevations suitable for the establishment of tidal marsh vegetation;

(c) Lower up to 9,277 linear feet of levee at several locations along the pond and place the excavated levee material along the pond bottom to create elevations suitable for the establishment of tidal marsh vegetation and to create ditch blocks; and

(d) Place up to eight, 40-foot-long ditch blocks in borrow ditches adjacent to the levees directing tidal flows to the interior of the pond.

In Pond 4, convert a former salt pond to tidal marsh by doing the following:

(a) Excavate up to nine, approximately 100-foot-long breaches and pilot channels to enhance site drainage, accelerate vegetation establishment and provide habitat for fish soon after levee breaching. Place the excavated material along the pond bottom to create elevations suitable for tidal marsh vegetation;

(b) Excavate a 50-foot-long breach along the Napa River that would initiate salinity reduction in Ponds 4 and 5 and use the excavated material to create ditch blocks;

(c) Excavate up to two, 250-foot-long breaches along the interior levee separating Ponds 4 and 5, hydrologically connecting the two ponds and place the excavated material along the pond bottom to create elevations suitable for tidal marsh vegetation;

(d) Place up to seven, 40-foot-long ditch blocks in borrow ditches adjacent to the levees to direct tidal flows to the interior of the pond;

(e) Excavate 9,800 linear feet of starter channels and use the excavated material to create berms adjacent to the channels; and

(f) Lower up to 7,549 linear feet of levee at several locations along the pond and use the excavated material to create ditch blocks or place on pond bottoms.

In Pond 5, convert a former salt pond to tidal marsh by doing the following:

(a) Excavate up to six, 100-foot-long breaches and pilot channels to enhance site drainage, accelerate vegetation establishment and provide habitat for fish and either use the excavated material to create ditch blocks or berms;

(b) Excavate up to 9,000 linear feet of starter channels and use the excavated material to create berms adjacent to the channels;

(c) Place up to six ditch blocks in borrow ditches adjacent to the levees directing tidal flows into the interior of the pond using on-site excavated material; and

(d) Lower 5,424 linear feet of levee adjacent to the Napa River and place the material on pond bottom, or use the excavated material to create ditch blocks or berms.

In South Slough:

(a) Either install one, approximately 15-foot-wide, 15-foot-long floating kayak/ canoe portage (a total of 75 square feet of floating fill) along South Slough directly across from the northeast end of Pond 1 that will facilitate easy kayak/ canoe access from Pond 1 to South Slough or use the existing CDFG dock on South Slough near the Can Club.

2. **At the Napa Plant Site**

In the Commission's certain waterways jurisdiction:

(a) Excavate approximately 85,917 cubic yards of material over approximately 8.8 acres to breach four levees: one in the North Unit (200 feet wide), one in the Central Unit (150 feet wide), and two in the South Unit (600 feet wide and 150 feet wide); and

(b) Place approximately 266 cubic yards of riprap material over 0.1 acres to strengthen breaches in tidal marsh.

In the Commission's salt pond jurisdiction:

(a) Excavate approximately 355,473 cubic yards of material over approximately 36 acres to lower external and internal levees in the North, Central and South Units to improve tidal circulation and expand the marsh plain;

(b) Excavate and sidecast approximately 417,560 cubic yards of material over approximately 77.8 acres in the North, Central, and South Units for the creation of tidal channels;

(c) Place approximately 93,920 cubic yards of material over approximately 79 acres in Pond 10 to raise the ponds to elevations suitable for supporting tidal marsh vegetation;

(d) Place approximately 14,506 cubic yards of the excavated material over approximately 6.5 acres to create transitional habitat in the North, Central, and South Units;

(e) Place approximately 54,128 cubic yards of material over approximately 6.8 acres in Pond 10 to elevate the area to uplands to support the future creation of a Runway Safety Area (RSA) for and by the Napa County Airport by creating upland conditions;

(f) Place approximately 13,050 cubic yards of material over approximately 5.5 acres to improve the existing levees along the eastern side of the Central and South Units to maintain existing levels of flood protection after the proposed levee breaches;

(g) Place approximately 1,708 cubic yards of material over approximately 0.9 acres in the Central Unit to construct a new vehicle access road into the site;

(h) Improve, use and maintain a total of approximately 6.2 miles of existing levees, by installing 10-foot-wide, gravel public access trails for pedestrians and bicyclists, along: (1) the northern edge of the Central Unit (Ponds W1, W2, and W3); (2) the eastern edge of the Central Unit and the eastern edge of Ponds B1, B2 and B3 of the South Unit; (3) the northern edge of Ponds CB1 through B-1 of the South Unit; (4) the southern edge of the barge channel extending slightly south along a small section of the Napa River; (5) the western side of Green Island; (6) along the southern edge of Ponds 9 and 10; and (7) along the east side of Pond 10;

(i) Install, use, and maintain a public staging area in the Central Unit covering approximately 15,800 square feet that includes: (1) two public parking areas with a total of 43 standard and two ADA-compliant parking spaces; and (2) one ADA-compliant public restroom;

(j) Maintain and provide access for non-motorized watercraft by improving an existing boat launch ramp at the barge channel in the Central Unit; and

(k) Install, use, and maintain various public access amenities including: six benches, two picnic tables, four interpretive signs, and approximately seven trash cans in locations deemed compatible with sensitive wildlife onsite.

3. **Ponds 6, 6A, 7, 7A and 8**

In the Commission's salt pond jurisdiction:

a. **Ponds 6/6A:** Convert two former salt ponds to managed ponds by doing the following: (1) excavate a total of 7,200 cubic yards of material from Ponds 6/6A and place the material over 132,000 square feet (3.03 acres) on the existing embankment separating Pond 6 from Pond 6A to strengthen it; (2) place a total of 4,000 cubic yards of rip rap over 40,000 square feet (0.92 acre) of the embankment separating Pond 6A from Napa Slough; (3) install, use and maintain a total of six 36-inch-in-diameter outfalls with gates, six 36-inch-in-diameter culverts with gates, and six 36-inch-in-diameter inlets with gates; (4) demolish the existing siphon that hydrologically connects Ponds 6A with Pond 7A; (5) breach the "donut" (the circular, earthen bermed small pond with multiple intakes used to distribute water through the canal and siphon system) connecting Pond 6A and the Pond 6A canal and install a new water control structure north of the Pond 6 donut to provide flow from the Pond 6/6A canal into Pond 6; (6) use and main-

tain the existing Pond 6 "donut" and install a new 48-inch-in-diameter intake, and (7) install, use and maintain up to 2,300 square feet of walkways that would allow access to and maintenance of water control structures;

b. **Ponds 7/7A:** Convert two former salt ponds to managed ponds by doing the following: (1) excavate a total of 10,000 cubic yards of material from the mixing chamber and the Pond 6A/7 siphon basin and place the material over 200,000 square feet (4.59 acres) of existing embankments primarily between Ponds 7 and 7A, raising these structures to heights varying from 7 feet NAVD to 9- to 10-feet NAVD, and creating 3:1 side slopes; (2) excavate a total of 8,000 cubic yards of material from Ponds 7/7A and use the material to widen portions of the existing internal embankment that bisects Ponds 7 and 7A, creating approximately 90,000 square feet (2.07 acres) of nesting and cover habitat for the special-status Western snowy plover and the California least tern; (3) excavate the existing channel along the eastern side of Pond 7 lowering the invert (bottom) elevation from 2 to 0 feet NAVD 88; (4) replace, use and maintain all existing water control structures (two culverts, two outfalls and two inlets (all gated)) with appropriately sized structures; (5) improve the existing "donut" by grading the donut, installing an air bubbler system with a 114-foot-long sheetpile baffle that will cover 1,030 square feet; (6) install, use and maintain 1,105 square feet of walkways that will allow access to and maintenance of water control structures; (7) install, use and maintain a 120-square-foot precast, concrete maintenance building that would house control systems for the bubbler system; and (8) improve, use and maintain a 10-foot wide, 5,654 foot long (56,540 square feet) public access path with an ADA-accessible gravel surface along the eastern perimeter of Ponds 7A/7. The embankment separating Pond 7A from Pond 7 will continue to serve as an informal footpath with a surface appropriate for least tern and snowy plover nesting (this path would be closed seasonally, to prevent impacts to breeding snowy plovers); and

c. **Pond 8:** Convert a former salt pond to managed pond by doing the following: (1) excavate a total of 13,000 cubic yards of material from the Pond 8 borrow ditch and/or pond bottom and place the material along 235,000 square feet (5.39 acres) of Pond 8, raising the embankment from 5 feet to 10 feet NAVD with a top width of 10 feet and 3:1 side slopes; and (2) improve, use and maintain a 10-foot-wide, 6,110-foot-long (61,110 square foot) public access path with an ADA-accessible gravel surface around the perimeter of Pond 8.

This authority is generally pursuant to and limited by the application for the original permit received on November 24, 2004, ~~and~~ the letter dated August 15, 2006, requesting Amendment No. One, ~~and~~ the letter dated March 3, 2010, requesting Amendment No. Two, and the application dated April 22, 2012, requesting Amendment No. Three, including all accompanying and subsequently submitted correspondence, documents, and exhibits, but subject to the modifications required by conditions hereto.

B. Work authorized in the original permit was to commence prior to October 1, 2006, or this permit would have lapsed and become null and void. All work originally authorized was also to be diligently prosecuted to completion, and was to be completed by October 1, 2011. Work authorized by Amendment No. One (restoration of the Napa Plant Site) must commence prior to October 1, 2010 or the authority for work at the Napa Plant Site will lapse and become null and void. Work at the Napa Plant Site must also be diligently prosecuted to completion by December 30, 2013, unless an extension of time is granted by further amendment of this amended permit. Work authorized under Amendment No. Two must commence prior to December 1, 2011, or this amended

permit will lapse and become null and void. Such work must also be diligently pursued to completion and completed by March 31, 2012 unless an extension of time is granted by further amendment of this amended permit. Work authorized under Amendment No. Three at Ponds 6, 6A, 7, 7A and 8 must commence prior to June 30, 2013, or this amended authority will lapse and become null and void. Such work must also be diligently pursued to completion and completed within 30 months or by December 31, 2015, whichever is earlier, unless an extension of time is granted by further amendment of this amended permit.

C. The originally authorized project involved the repair, maintenance and replacement of existing levees and water control structures to allow for better management of former salt ponds as managed ponds (in Ponds 1, 1A and 2). The project also involved tidal marsh restoration in Ponds 3, 4 and 5, and at the Napa Plant Site. Such work included activities such as breaching and lowering of levees, placement of ditch blocks, channel excavation and berm construction.

~~In addition~~ Material Amendment No. One authorized the conversion of the former plant site to tidal marsh and included: (1) excavation of approximately 85,917 cubic yards of material over approximately 8.8 acres to breach four levees in the Commission's certain waterways jurisdiction; (2) placement of approximately 589,872 cubic yards of material over approximately 173.5 acres of salt pond bottoms to create new tidal marsh and transitional habitat, levees, and a new vehicle access road, and to establish uplands for a Runway Safety Area (RSA) for the Napa County Airport, and public access trails; and (3) placement of fill within the salt ponds for levee strengthening and maintenance. Pursuant to Amendment No. One, fill to be placed within the salt ponds will come from levee lowering (150,583 cy), sidecasting material excavated for channel creation (417,560 cy), and redistributing old dredged material that is currently on the site adjacent to the existing barge channel (118,973 cy); (4) lowering of levees for re-use of material on site of approximately 150,583 cubic yards of material; (5) placement of approximately 266 cubic yards of riprap material over 0.1 acres to strengthen breaches in tidal marsh. In total, the project will result in the excavation of up to 907,317 cubic yards of material over an 121.55-acre area and the placement of up to 1,320,672 cubic yards of material over 251.1 acres of pond bottoms, levees, vehicle access road, and uplands for the RSA.

Amendment No. Two authorized several improvements at Pond 1, as well as improvements associated with the Cullinan Ranch Restoration Project (authorized under Amendment No. One to CN 5-04) that are located on land partially owned by the CDFG including a public access viewing platform near the parking area; a public access overlook at the north end of the Pond 1 levee; levee trail improvements; a pile-supported fishing pier; a kayak launch; and an acceleration and deceleration lane adjacent to Highway 37 that will allow for improved access to the Pond 1 public access parking lot. Lastly, Amendment No. Two revised the requirement to provide one, large kayak launch rather than two smaller launches.

Material Amendment No. Three authorizes the conversion of five salt ponds to managed ponds and includes: (1) excavation of approximately 40,000 cubic yards of material from pond borrow ditches and the placement of the material over 600,000 square feet (13.77 acres) of embankments in the Commission's salt pond jurisdiction. Fill will be placed in the salt ponds for embankment strengthening and maintenance, will raise the heights of the embankments to 100-year-flood elevations, and minimize the risk of possible unplanned bittern releases. In addition, fill associated with the construction of maintenance walkways (2,000 cubic yards over 1,951 square feet), rock rip-rap along Pond 6A

(4,000 cubic yards along 40,000 square feet) and water control structures (18,000 square feet) is proposed. The project will result in the placement of a total of 40,000 cubic yards of material over 500,000 square feet (11.48 acres).

Following project implementation, a total of 4,586 acres of tidal marsh habitat, ~~1,682~~ 3,582 acres of managed pond habitat, 99 acres of tidal channels, and 42 acres of transitional habitat will be provided, though it will be many years before the tidal marsh habitat is fully developed and at least seven years before the bittern has been diluted sufficiently that Pond 7 will provide safe managed pond habitat.

Public access provided with the originally authorized project ~~will~~ consists of: the relocation and improvement of an existing public access parking lot~~,~~; improvement of access on top of a levee adjacent to Pond 1 and the installation of three kayak/canoe portages.

Public access provided with Material Amendment No. One (the Napa Plant Site) consists of the following: a 6.2-mile, 10-foot-wide, gravel public access trail for pedestrians and bicyclists along existing levees at: (1) the northern edge of the Central Unit (Ponds W1, W2, and W3); (2) the eastern edge of the Central Unit and the eastern edge of Ponds B1, B2 and B3 of the South Unit; (3) the northern edge of Ponds CB1 through B-1 of the South Unit; (4) the southern edge of the barge channel extending slightly south along a small section of the Napa River; (5) the western side of Green Island; and (6) along the southern edge of Ponds 9 and 10; the development of a public staging area in the Central Unit covering approximately 15,800 square feet that includes: two public parking areas with a total of 43 standard and two ADA-compliant parking spaces, and one ADA-compliant public restroom; a non-motorized boat launch ramp at the barge channel in the Central Unit; and various public access amenities including: six benches, two picnic tables, four interpretive signs, and approximately 7 trash cans ~~(Amendment No. One).~~

Public access provided with Amendment No. Two included authorizing improvements required under the Cullinan Ranch Project, as well as revising a previously authorized condition such that one large kayak launch will be installed in Cullinan Ranch, rather than two small launches at Pond 1.

Public access provided with Material Amendment No. Three (Ponds 6, 6A, 7, 7A and 8) consists of a total of 11,674 linear feet of improved, barrier-free public access consisting of a 10-foot wide pathway with an ADA-accessible gravel surface, as well as interpretative signage and seating.

II. Special Conditions

The authorization made herein shall be subject to the following special conditions, in addition to the standard conditions in Part IV:

A. Specific Plans and Plan Review

1. **Plan Review**. No work whatsoever shall be commenced pursuant to this authorization until final precise site, public access, engineering, restoration and grading plans and any other relevant criteria, specifications, and plan information for that portion of the work have been submitted to, reviewed, and approved in writing by or on

behalf of the Commission. The specific drawings and information required will be determined by the staff. To save time, preliminary drawings should be submitted and approved prior to final drawings.

Final plans submitted pursuant to this condition for work at the Napa Plant Site shall generally conform to the plans entitled, "Napa Plant Site Restoration Project," prepared by URS and dated July 12, 2007.

a. **Site Plans**. Site, public access, restoration, engineering and grading plans shall include and clearly label the five-foot contour line above Mean Sea Level (the Mean High Tide Line, or the inland edge of marsh vegetation up to five feet above Mean Sea Level in marshland), property lines, the boundaries of all areas currently reserved for public access purposes, grading, details showing the location, types, dimensions, and materials to be used for all public access improvements, water control structures, portages, the fence at the southeast end of Pond 1 and other proposed improvements.

   (1) The site plan shall provide a dimension line which marks the minimum distance between a proposed structure authorized by this amended permit and the Mean High Water Line (or, if marsh is present, the line 5 feet above mean sea level NGVD (National Geodetic Vertical Datum)). Additional dimension lines shall be provided, as necessary, to locate where this minimum dimension occurs in relation to either the property line, the top of bank, or some other fixed point upon the site.

b. **Engineering Plans**. Engineering plans shall include a complete set of contract drawings and specifications and design criteria. The design criteria shall be appropriate to the nature of the project, the use of any structures, soil and foundation conditions at the site, and potential earthquake-induced forces. Final plans shall be signed by the professionals of record and be accompanied by:

   (1) Evidence that the design complies with all applicable codes; and

   (2) Evidence that a thorough and independent review of the design details, calculations, and construction drawings has been made.

Plans submitted shall be accompanied by a letter requesting plan approval, identifying the type of plans submitted, the portion of the project involved, and indicating whether the plans are final or preliminary. Approval or disapproval shall be based upon:

(a) completeness and accuracy of the plans in showing the features required above, particularly the shoreline (Mean High Water Line or the inland edge of marsh vegetation up to 5 feet above Mean Sea Level if tidal marsh is present), property lines, and the line 100-feet inland of the shoreline, and any other criteria required by this authorization;

(b) consistency of the plans with the terms and conditions of this authorization;

(c) the provision of the amount and quality of public access to and along the shoreline and in and through the project to the shoreline required by this authorization, but limited to ensuring: (1) the public's use and enjoyment of the access area; (2) public safety; (3) accessibility for persons with disabilities; (4) sufficient durability and maintenance; and (5) the access is clear and continuous and encourages public use;

(d) consistency with legal instruments reserving public access and open space areas;

(e) assuring that any fill in the Bay does not exceed this authorization and will consist of appropriate shoreline protection materials as determined by or on behalf of the Commission;

(f) consistency of the plans with the recommendations of the Design Review Board;

(g) consistency of the plans with the recommendations of the Engineering Criteria Review Board; and

(h) assuring that appropriate provisions have been incorporated for safety in case of seismic event.

Plan review shall be completed by or on behalf of the Commission within 45 days after receipt of the plans to be reviewed.

2. **Conformity with Final Approved Plans**. All work, improvements, and uses shall conform to the final approved plans. Prior to any use of the facilities authorized herein, the appropriate design professional(s) of record shall certify in writing that, through personal knowledge, the work covered by the authorization has been performed in accordance with the approved design criteria and in substantial conformance with the approved plans. No noticeable changes shall be made thereafter to any final plans or to the exterior of any constructed structure, outside fixture, lighting, landscaping, signage, landscaping, parking area, or shoreline protection work without first obtaining written approval of the change(s) by or on behalf of the Commission.

3. **Discrepancies between Approved Plans and Special Conditions**. In case of any discrepancy between final approved plans and Special Conditions of this authorization or legal instruments approved pursuant to this authorization, the Special Condition or the legal instrument shall prevail. The permittee is responsible for assuring that all plans accurately and fully reflect the Special Conditions of this authorization and any legal instruments submitted pursuant to this authorization.

4. **Appeals of Plan Review Decisions**. Any plan approval, conditional plan approval or plan denial may be appealed by the permittee or any other interested party to the Design Review Board or, if necessary, subsequently to the Commission. Such appeals must be submitted to the Executive Director within 30 days of the plan review action and must include the specific reasons for appeal. The Design Review Board shall hold a public hearing and act on the appeal within 60 days of the receipt of the appeal. If subsequently appealed to the Commission, the Commission shall hold a public hearing and act on the appeal within 90 days of the receipt of the subsequent appeal.

~~5. **Board Review**. Preliminary engineering plans and engineering criteria shall be reviewed by or on behalf of the Engineering Criteria Review Board prior to submittal to the staff for final approval pursuant to Special Condition II A. The specific drawings required depend on the type of project and shall be as determined by the staff engineer. Such materials shall demonstrate to the satisfaction of the Board or the staff engineer that the permittee has adopted design criteria appropriate to the nature of the project and use of any structures constructed in connection therewith. Such criteria shall take into account the soil and foundation conditions at the site and potential earthquake induced forces.~~

B. **Marsh Restoration**

1. **Marsh Monitoring Plans.** Prior to breaching levees in Ponds 4 or 5~~, and prior to~~ breaching levees at the Napa Plant Site, and/or commencing earth moving activities in Ponds 6, 6A, 7, 7A and 8, the permittee shall submit and receive approval by or on behalf of the Commission, pursuant to Special Condition II-A, of a marsh monitoring plan for each ~~construction~~ restoration phase. The monitoring plan for the two or three construction phases of the Napa Plant Site shall generally conform to the "Monitoring and Adaptive Management Plan for the Napa Plant Site" dated November 2006 and prepared by CDFG. The monitoring plan for the enhanced management of Ponds 6, 6A, 7, 7A and 8 shall generally conform to the "Habitat Monitoring Plan for Ponds 6, 6A, 7, 7A and 8-Napa River Salt Marsh Restoration Project, Napa, Sonoma and Solano Counties", prepared by CDFG.

   ~~Largely~~ ~~b~~Because ~~the restoration of~~ project implementation in Ponds 1-5, ~~and~~ the Napa Plant Site and Ponds 6, 6A, 7, 7A and 8 will occur at different times, and the monitoring requirements are slightly different, at least ~~two~~ three (and as many as ~~four~~ five) separate monitoring reports shall be prepared. Except where noted, the monitoring requirements for each phase (Ponds 1-5 and the two or three phases of the Napa Plant Site) shall be identical, shall encompass a 15-year post-construction monitoring period, and, at a minimum, shall include the following:

   a. **Site Conditions and Modifications.** A topographic map of the site at two-foot contour intervals showing the proposed modifications. All elevations shall be relative to National Geodetic Vertical Datum (NGVD) or North American Vertical Datum (NAVD). The map shall include typical cross-sections showing the proposed elevations of the pond bottoms after fill placement, the heights and slope of repaired embankments, any channels, and any high spots. The map shall show: (1) figures for the ratios of typical horizontal to vertical slopes for proposed marsh surface, channels, ~~and~~ sloughs and embankments, particularly for areas where either grading, excavation, or fill will take place; (2) expected plant species along the cross-sections according to their expected zone of growth; (3) the elevation of adjacent surrounding levees; and (4) estimated Mean Higher High Water, Mean High Water, Mean Lower Low Water, Mean Sea Level, the maximum predicted tide, and the 100-year tide. To promote positive drainage, constructed elevations shall grade gently toward constructed channels and breaches.

   b. **Earth Moving Schedule.** A schedule indicating when excavation, fill and/or grading will occur and the time to be allowed for settlement before levees are breached.

   c. **Sedimentation.** Provisions for monitoring sedimentation in the restoration area using sedimentation pins or plates and staff gauges. A minimum of 4 sedimentation plates shall be installed in each of the ponds returned to tidal action and monitored in Ponds 3, 4 and 5 (a total of 12 sedimentation plates in the restoration area). Sedimentation pins shall be installed in 15 locations in the restoration area. At the Napa Plant Site, a total of six plates will be placed along with other measures of sedimentation. Sedimentation monitoring is not required for Ponds 6, 6A, 7, 7A and 8.

   d. **Erosion.** A plan for monitoring the effects of the project on increasing erosion and scour within the ponds and in adjacent channels, fringe marsh and surrounding areas. Erosion monitoring is not required for Ponds 6, 6A, 7, 7A and 8.

e. **Water Quality.** A water-quality monitoring program that shall, at a minimum, monitor pH, salinity, dissolved oxygen, turbidity and temperature in the restoration area. Water quality monitoring for Ponds 6, 6A, 7, 7A and 8 shall comply with the requirements set forth in the NPDES permit and the RWQCB Order issued for the project.

f. **Vegetation**

i. **Ponds 1-5.** Provisions for monitoring vegetation establishment in the areas returned to tidal action. Vegetation monitoring shall include determining the amount of vegetation establishment at the restoration site using aerial photographs and ground truthing of the plant species established until it is determined that the site has achieved 5% cover of tidal marsh vegetation. These aerial photos will be included in the monitoring report. Once marsh vegetation has become established on 5% of the pond, vegetative transects shall be conducted to provide more detailed information on vegetation cover, including species present, percentage of the site vegetated, approximate percentage representation of different plant species and a qualitative assessment of anticipated plant colonization.

ii. ~~At the~~ **Napa Plant Site.** The measures noted above shall apply except that the required ground truthing will be triggered once the site has reached 20% cover of tidal marsh vegetation.

iii. **Ponds 6, 6A, 7, 7A and 8.** As long as Ponds 6, 6A, 7, 7A, and 8 are operated as managed ponds, vegetation monitoring beyond eradicating invasive plant species (as specified below) is not required.

g. **Bird Surveys**

i **Ponds 1-5.** Provisions for monitoring the use of the site by bird species including bird surveys conducted four times a year, two at high tide and two at low tide for the first five years following the completion of restoration activities and then every other year for the remainder of the monitoring period.

ii. ~~At the~~ **Napa Plant Site.** ~~a~~Avian surveys shall be conducted quarterly in the North Unit (Ponds 9 and 10) and as follows in the Central and South Units: twice a year in years 1-3; and once a year in years 4-7, 10 and 15 or until vegetation cover reaches 80 percent and the predominant bird use shifts from shorebirds and waterfowl to resident marsh species. Surveys shall continue for approximately 1 year thereafter or for a maximum period of 15 years following completion of each project phase. The greater frequency of monitoring in the North Unit is a mitigation measure that will provide data needed to evaluate bird strike hazards associated with the Napa County Airport, and guide adaptive management decisions.

iii. Ponds 6, 6A, 7, 7A and 8. Avian surveys shall be conducted twice a year, during years 1 through 5 post-construction, and once a year, every other year (e.g., Years 5, 7, 9, 11, 13, 15), until fifteen years post construction.

h. **Fish Literature Review.** The first three monitoring reports shall briefly summarize existing literature on fish species present in the Lower Napa River, and any anecdotal information (i.e., talking with fishermen) on fish found within the restored ponds).

i. **Reference Site.** The permittee shall identify a suitable reference site, most likely Pond 2A, that shall be evaluated as part of the monitoring program and shall provide a reference for evaluating the progress of the restoration site.

j. **Invasive Plant Control.** Monitoring reports submitted to the Commission pursuant to the approved monitoring plans shall report on all eradication efforts conducted on the site for invasive plant species such as non-native *Spartina*, broom and thistle as well as any efforts to control other invasive plant species on site. The project team shall work with the San Francisco Estuary Invasive Spartina Project to monitor and control introduced and invasive Spartina, in order to ensure regional coordination. The permittee shall completely control nonnative spartina species, and reasonably control (average of less than 5% of the levees) during the 15 year monitoring period such undesirable nonnative species as star thistle and broom. Reasonable efforts shall be made to eradicate and/or control invasive species such as pampas grass, giant reed, and various species of broom for the duration of the monitoring period where feasible. Other invasive species of concern, such as Lepidium, wild radish, etc., shall be monitored and, should funding become available and if the eradication and/or control attempts are deemed appropriate, eradication and/or control attempts shall be implemented over the course of the monitoring period.

k. **Monitoring Reports**

i. Ponds 1-5. Monitoring reports describing the data collected pursuant to the approved restoration plan shall be submitted biennially (every two years) beginning on December 1st, two years following the completion of restoration activities.

ii. Napa Plant Site. Monitoring reports describing the data collected pursuant to the approved restoration plan shall be submitted biennially (every two years) beginning on December 1st, two years following the completion of restoration activities~~. and~~ for 15 years post-construction of each phase (years 2, 4, 6, 8, 10, 12 and 14) ~~for the Napa Plant Site~~.

iii. Ponds 6, 6A, 7, 7A and 8. Monitoring reports describing the data collected pursuant to the approved restoration and monitoring plans shall be submitted biennially (every two years) beginning on December 1st, post-construction (years 1, 3, 5, 7, 8, 12, 15).

2. **Relevant Monitoring Data.** The permittee shall provide all monitoring information and data from other studies conducted on the site including but not limited to any CalFed, U.S. Army Corps of Engineers (Corps), Ducks Unlimited, Wildlife Conservation Board-funded studies.

3. **Control of Invasive Plant Species.** The permittee shall develop and implement an invasive plant control plan for undesirable plant species such as invasive *Spartina* species, broom and star thistle over the 15-year monitoring period that shall be subject to approval by or on behalf of the Commission pursuant to Special Condition II-A, above. The plan shall include provisions for complete eradication of all nonnative *Spartina* species.

4. **Technical Advisory Committee.** The permittee shall assemble a Technical Advisory Committee (TAC) or use the existing Napa Sonoma Technical Group, that shall include Commission staff, to share information regarding the status of the restoration and to provide peer review of any adaptive management strategies that may be employed including invasive species control. The TAC shall be convened a

minimum of once a year following the breach of the levees at Ponds 4 and 5 and after the breaches for each construction phase at the Napa Plant Site or by January 1, 2013, for the 15-year monitoring period.

C. **Public Access.** ~~Prior to completing work on Ponds 1 and 1A or by February 1, 2007, for those ponds, and as specified in Special Condition II C 4 for Phase 2 work at the Napa Plant Site the permittee shall provide the following public access improvements~~ The permittee shall provide the following public access improvements for each phase of the salt pond restoration, in accord with the following requirements:

1. **Ponds 1-5.** Prior to completing Phase 1 construction activities or by February 1, 2007, whichever is earlier, the permittee shall provide the following improvements:

   a. **Public Access Parking Lot.** Relocate and improve the existing public access parking at the southeastern corner of Pond 1 generally, in accord with the plan entitled, "*Napa Sonoma Marshes Wildlife Area New Parking Lot, Central Coast Region, Napa County*", prepared by the California Department of Fish and Game and attached as Exhibit A, but as more specifically approved pursuant to Special Condition II-A. The parking lot improvements shall consist of:

      (1) Paving a 3,948-square-foot area and providing striped spaces for 8 vehicles, including one handicap accessible space;

      (2) Removing the existing fencing and installing a new, seven-foot-tall, vinyl-coated chain link fence and gate with a handicap accessible opening; and

      (3) Installing a minimum of two public access signs to be approved pursuant to Special Condition II-A, above. One of the signs shall include information regarding the fluctuating water levels in Pond 1 and South Slough and shall advise users that the water level in the pond is variable and identify any areas of the pond closed to water access to avoid disturbances to shorebirds and waterfowl. The other sign shall provide information regarding other public access opportunities in the project vicinity. The design and information contained in the public access signs shall be subject to approval by or on behalf of the Commission.

~~2.~~ b. **Kayak Launch**. The permittee shall fund the construction of one, 1,950-square-foot (0.04 acre) ADA-accessible, wooden, pile-supported kayak launch (funded through the Wildlife Conservation Board) at Cullinan Ranch within 6 months of USFWS completing restoration activities and public access improvements at neighboring Cullinan Ranch. Plans for, and the siting of the kayak launch, shall be done in coordination with USFWS and Commission staff as described in Special Condition II-A (Amendment No. Two).

~~3.~~ c. **Levee Improvements at Pond 1.** The permittee shall improve, use and maintain an 8,850-foot-long section of levee along the eastern perimeter of Pond 1 for public access use and maintenance purposes by placing approximately 2,740 tons of aggregate base rock to a 4-inch depth. The permittee shall ensure that this access is available to public access users during State Wildlife Area hours and that the levee surface is accessible throughout the year.

~~4.~~ 2. **Napa Plant Site**

   a. **Public Access Improvements at the Napa Plant Site.** Prior to completing Phase 2 construction activities, or by January 1, 2013, whichever is earlier, at the Napa Plant Site in accord with the plan entitled, "*Napa Sonoma Marshes Wildlife Area New Parking Lot, Central Coast Region, Napa County*", prepared by the California

Department of Fish and Game and attached as Exhibit A, but as more specifically approved pursuant to Special Condition II-A, the permittee shall implement the following public access improvements:

(1) Improve, use and maintain a total of approximately 6.2 miles of 10-foot-wide, gravel levee-top public access trails for pedestrians and bicyclists, along: (1) the northern edge of the Central Unit (Ponds W1, W2, and W3); (2) the eastern edge of the Central Unit and the eastern edge of Ponds B1, B2 and B3 of the South Unit; (3) the northern edge of Ponds CB1 through B-1 of the South Unit; (4) the southern edge of the barge channel extending slightly south along a small section of the Napa River; (5) the western side of Green Island; and (6) along the southern edge of Ponds 9 and 10;

(2) Install, use, and maintain a public staging area in the Central Unit covering approximately 15,800 square feet that includes: (1) two public parking areas with a total of 43 standard and two ADA-compliant parking spaces; and (2) one ADA-compliant public restroom;

(3) Improve and use an existing boat launch ramp at the barge channel in the Central Unit for non-motorized watercrafts; and

(4) Install, use, and maintain various public access amenities including six benches, two picnic tables, four interpretive signs, and approximately seven trash cans in locations deemed compatible with sensitive wildlife onsite.

3. **Ponds 6, 6A, 7, 7A and 8**

a. Prior to completing Phase 3 construction activities, or by December 31, 2015, whichever is earlier, the permittee shall provide the following public access improvements:

(1) Improve, use and maintain the following public access:

i) **Ponds 7 and 7A**: (a) level the current informal pathway creating an even, level surface and improve a 5,564-foot-long (over 1 mile) public access path along the eastern embankment by providing a minimum pathway width of 10 feet and applying an ADA-accessible gravel surface; (b) install a minimum of 4 interpretive signs that describe the history and ecology of the area; and (c) provide rustic seating at the southern end of the pathway.

ii) **Pond 8**: (a) level the current informal pathway creating an even, level surface and improve a 6,110-foot-long (over 1 mile) public access path along the entire pond perimeter by providing a minimum pathway width of 10 feet and applying an ADA-accessible gravel surface; and (b) provide 1 interpretative sign that describes the ecology and/or the history of the area.

b. **Climate Change.** If the public access required under Material Amendment No. Three (Ponds 6/6A, 7/7A and 8) becomes flooded or damaged as a result of sea level rise and climate change, the permittee shall work with the Commission and other stakeholders to replace lost access along the inland edge of the ponds, if possible, or provide alternative public access inland.

4. **Public Access Plan.** To better inform future public access decisions that will likely arise from future restoration activities in the area, including those activities at Ponds 6, 6A, 7, 7A and 8, and Napa Plant Site, the permittee shall prepare and submit a public access plan to the Commission by September 1, 2008. The plan shall provide information on current public access opportunities in the area as well as future opportunities for public access and shall be prepared in coordination with the State Coastal Conservancy and the San Francisco Bay Trail Project. The plan shall seek to evaluate a variety of public access uses and address alternative routes for the Bay Trail.

5. **Coordination with the City of American Canyon, Napa County, and the Bay Trail Project.** The permittee shall fully coordinate with the City of American Canyon, Napa County and the Association of Bay Area Government's San Francisco Bay Trail project to establish a public access crossing across or underneath the Sonoma-Marin Area Rail Transit's (SMART) existing railroad tracks. This crossing is necessary to connect the public access trail on the south side of Ponds 9 and 10 with the public access trail along the northern edge of the Central Unit. Furthermore, should the City, the County, and/or Bay Trail receive funding to develop additional improvements (such as, improved trail treatments, signage, or site amenities) on the levee trails designed as part of this project, the permittee shall work with those entities to allow those improvements to be installed.

6. **Reasonable Rules and Restrictions.** The permittee may impose reasonable rules and restrictions for the use of the public access facilities authorized herein to correct particular problems that may arise. Such limitations, rules, and restrictions shall have first been approved by or on behalf of the Commission upon a finding that the proposed rules would not significantly affect the public nature of the area, would not unduly interfere with reasonable public use of the public access areas, and would tend to correct a specific problem that the permittee has both identified and substantiated. Rules may include restricting hours of use and delineating appropriate behavior.

7. **Maintenance**. The areas and improvements within the public access facilities authorized herein shall be permanently maintained by and at the expense of the permittee or its assignees. Such maintenance shall include, but is not limited to, repairs to all paths, parking lot surfaces and portage facilities, restrooms, furniture, repairs or replacement as needed of any public access amenities such as signs, periodic cleanup of litter and other materials deposited within the access areas, removal of any encroachments into the access areas, and assuring that the public access signs remain in place and visible; and repairs to any public access areas or improvements that are damaged by future flooding, including and subject to approval by or on behalf of the Commission, including raising land elevations or redesigning public access features to protect and ensure the usability of the public access areas and improvements, where appropriate. Within 30 days after notification by staff, the permittee shall correct any maintenance deficiency noted in a staff inspection of the site.

D. **Marsh Protection**

1. **Best Management Practices**. All construction operations shall be performed to prevent construction materials from falling, washing, or blowing into the Bay except as described in the restoration plan. In the event that such material escapes or is placed in an area subject to tidal action of the Bay, except as described in the restoration plans approved by or on behalf of the Commission, the permittee shall immediately retrieve and remove such material at its expense. The permittee shall also

employ best management practices, such as placing drip pans below engines during fueling and storage etc., to assure that material placed for any purposes authorized herein will not erode into the Bay shortly after placement.

2. **Marsh and Upland Plant Protection During Construction.** The work authorized by this amended permit shall be performed in a manner that will prevent, avoid, or minimize to the extent possible any significant adverse impact on any existing tidal marsh, other sensitive wetland resources, and existing native upland vegetation. It is understood that the increased tidal prism that will occur with breaching of Ponds 4 and 5 will likely lead to increased scour in nearby sloughs and their adjoining tidal marshes. If any unforeseen adverse impacts occur to any such area(s) as a result of the activities authorized herein, the permittee shall restore the area(s) to its previous condition, including returning the disturbed area to its original elevation and soil composition and, if the area does not re-vegetate to its former condition within one year, the permittee shall seed all disturbed areas with appropriate vegetation consistent with plans approved by or on behalf of the Commission, pursuant to Special Condition II-A. The permittee shall employ mitigation measures to minimize impacts to wetland areas, such as: minimizing all traffic in marsh/mudflat areas; and carefully removing, storing, and replacing wetland vegetation that has been removed or "peeled back" from construction areas as soon as possible following construction.

3. **Removal of Excavated Material**. All dredged and excavated material must be used to stabilize levees and to construct ditch blocks, bird roosting islands and berms, and to raise elevations of pond bottoms. Any material not used for these purposes must be removed from the project site for proper disposal outside of the Commission's jurisdiction.

4. **Debris Removal**. All construction debris and any uncovered debris, such as concrete, asphalt, wood, plastics, etc., shall be removed from the project site for proper disposal outside of the Commission's jurisdiction. Excavated debris may be temporarily stored within the Commission's jurisdiction, provided measures are employed to assure that such material does not wash or erode into the surrounding marsh, waterways or ponds. In the event that any such material is placed in any area within the Commission's jurisdiction for an extended period (i.e. more than 60 days), the permittee, its assigns, or successors in interest, or the owner of the improvements, shall remove such material, at its expense, within ten days it has been notified by the Executive Director of such placement.

5. **Protection of Special-Status Fish and Wildlife Species.** The permittee shall take all precautions to avoid adverse impacts to special-status species such as the California clapper rail, delta smelt, Sacramento splittail and western snowy plover. The permittee shall implement the measures described in the U.S. Fish and Wildlife Service's (USFWS) Biological Opinions for the project dated June 3, 2003, ~~and~~ September 5, 2007, and October 31, 2012, to ensure that impacts to special-status species are minimized. Such measures shall include:

   a. **Delta smelt and Sacramento splittail.** To minimize the effects on the Sacramento splittail and delta smelt resulting from the loss of existing habitat, the permittee shall avoid construction activities in slough areas having emerged or submersed plants to the maximum extent possible; and

b. **California clapper rail.** The permittee shall conduct pre-construction surveys following USFWS' January 21, 2000 draft survey protocol at individual work sites, and avoid potential clapper rail habitat during construction to the maximum extent feasible. A qualified biologist shall be present to monitor construction activities in and near areas known to be occupied by clapper rail, and shall have the authority to install or require additional wildlife protective measures such as fencing and noise buffers, as well as having stop work authority. Construction activities shall not occur during the nesting period for clapper rails, February 1 through August 1. If construction activities need to occur during the nesting period, a qualified biologist shall conduct pre-construction surveys up to 72 hours before construction begins, using survey methods approved by the USFWS. If individuals and/or nests are not located with 250 feet of the construction area, then construction may proceed. If individuals and or nests are located with 250 feet of the construction area, the USFWS shall be contacted and consultation shall be reinitiated.

c. **Salt Marsh Harvest Mouse.** Salt marsh harvest mouse exclusion fencing shall be installed in key locations as determined by the biological monitor around the work area(s) to minimize the potential for harvest mice entering the work area(s) during construction activities. The exclusion fencing shall be maintained by the contractor under the direction of the biological monitor. A full-time qualified biologist shall monitor construction work within non-tidal seasonal wetland habitat potentially occupied by harvest mice during the most active portion of the breeding season of this species typically from August 1 to November 1.

d. **Western snowy plover and the California least tern**. To offset impacts to breeding and nesting Western snowy plower and the California least tern, the permittee shall create approximately 90,000 square feet (2.06 acres) of nesting and cover habitat along the levee that bisects Ponds 7/7A, and keep the surface of the levee either free of vegetation and/or apply a layer of oyster shells or pea gravel.

E. **Mitigation Measures.** To minimize potential adverse effects associated with the project, the permittee shall implement the mitigation measures described in the "*Napa River Salt Marsh Restoration Project EIS/EIR*" including subsequent submittals such as the Habitat Mitigation and Monitoring Plan for the Napa Plant Site, dated November 2006, the *"Napa Plant Site Restoration Project"* Final EIS/EIR dated November 2006, ~~and~~ the U.S. Fish and Wildlife Service's Biological Opinion for the project, dated September 5, 2007, and the Habitat Mitigation Monitoring Plan for Ponds 6, 6A, 7, 7A and 8. Such measures shall include: ensuring that Best Management Practices (BMPs) are implemented during construction activities; performing pre-construction surveys for special-status plant species in areas of suitable habitat; coordinating with the Napa County Mosquito Abatement district to minimize mosquito production; and educating construction crews regarding special-status fish and wildlife.

F. **Water Quality**

1. **Salinity and Turbidity.** To ensure that salinity concentrations of the Napa River are not raised above a level that normally occurs in the river during low flow months, the initial breach between the Napa River and Pond 4 shall coincide with a high flow event.

2. **Regional Water Quality Control Board Order No. R2-2004-0063 ~~and~~ Order No. R2-2007-0045, CIWQS Place No. 654284 and the National Pollutant Discharge Elimination System (NPDES) Permit No. CA 0030101.** The permittee shall comply with the RWQCB's Orders (issued on August 5, 2004, ~~and~~ July 11, 2007, June 8, 2011 respectively) and/or any future amendments to the Orders, and NPDES Permit No. CA 0030101 as well as the Self Monitoring Plan for the project, to ensure that potential water quality impacts of the project are minimized.

3. **Methylmercury Concerns.** Evidence indicates that the alternate drying and wetting of wetland areas is a primary contributor to mercury methylation. Since Ponds 6, 6A, 7, 7A and 8 will be managed so the pond bottoms will be submerged all of the time, these non-tidal ponds are not likely to be a source of methylmercury. Therefore, methylmercury monitoring of Ponds 6, 6A, 7, 7A and 8 is not required.

   To aid in the understanding of mercury methylation at the site (Ponds 1 through 5 and the Napa Plant Site) and to inform future adaptive management strategies that may be proposed to remedy excess methylmercury accumulation at the site, if it occurs, the permittee shall do the following.:

   a. Prior to the commencement of construction activities for the project, the permittee shall submit and receive approval, by or on behalf of the Commission (Ponds 1 through 5 and the Napa Plant Site), of a methylmercury monitoring program for the project. The program shall at a minimum include the following: (1) methods that will be employed to assess methylmercury accumulation at the site, particularly in indicator species, the frequency and timing of sampling, and a schedule for reporting results of the monitoring; (2) provisions for the creation or use of an existing Methylmercury Technical Advisory Committee (MTAC) that shall include representatives from BCDC, RWQCB, and methylmercury experts such as U.S. Geological Service (USGS) and the San Francisco Estuary Institute (SFEI); (3) provisions for implementing adaptive management techniques to remedy methylmercury accumulation if and when such techniques have been developed. Approval or disapproval of the monitoring program shall be made by or on behalf of the Commission in consultation with the MTAC, in particular the RWQCB; and (4) implementation of the plan once it is approved by the Commission.

   b. The permittee shall monitor methylmercury accumulation in Ponds 1, 2A and 3 prior to breaching levees at Ponds 4 and 5 and the Napa Plant Site. By November 1, 2005, the permittee shall submit results of methylmercury monitoring in Ponds 1, 2A and 3 to the Commission. The results of the monitoring shall be reviewed by or on behalf of the Commission in consultation with the MTAC. If monitoring results indicate that methylmercury accumulation in these ponds are at levels that could pose significant risks to Bay wildlife and fish as determined by or on behalf of the Commission in consultation with the MTAC, then breaching activities in Ponds 4 and 5 shall be delayed until such time that more information has been gathered and reasonable remediation measures have been formulated to remedy excessive methylmercury concentrations in marshes; and for the

   c. **Napa Plant Site Ponds.** Prior to the commencement of construction activities for the project, the permittee shall submit and receive approval, by or on behalf of the Commission, of a methylmercury monitoring program for the project. The permittee shall monitor methylmercury under the guidance of the Regional Water Quality Control Board (RWQCB) at all ponds at the Napa Plant Site. The monitoring program shall include baseline total mercury and methylmercury sampling prior to the reintroduction of tidal action. Baseline site data were

collected in 2003 and 2006. Maximum monitoring frequency shall be twice per year with a minimum monitoring effort of once per year. Monitoring objectives shall be that mercury concentrations in sentinel species (e.g., gobbies or silversides for sub-tidal habitat, brine flies for salt ponds, and song sparrows for emergent marsh) within the site are similar to concentrations in comparable habitats in San Pablo Bay.

d. The permittee shall continue to make the project site available to researchers and scientists and continue to encourage methylmercury research at the site. To this end, the permittee shall report to the Commission and the RWQCB annually, beginning December 31 of the year following breaching of the levees at all ponds at the Napa Plant site, on the results of methylmercury research at the site and any future research proposals or opportunities, and the status of efforts to gain the necessary funding of studies to help manage the methylation of mercury in the newly restored ponds.

G. **Creosote Treated Wood.** No pilings or other wood structures that have been pressure treated with creosote shall be used in any area subject to tidal action in the Bay or any certain waterway, in any salt pond, or in any managed wetland within the Commission's jurisdiction as part of the project authorized herein.

H. **Debris Removal**. All construction debris shall be removed to an authorized location outside the jurisdiction of the Commission. In the event that any such material is placed in any area within the Commission's jurisdiction, the permittee, its assigns, or successors in interest, or the owner of the improvements, shall remove such material, at its expense, within ten days after it has been notified by the Executive Director of such placement.

I. **Prevention of Flooding.** The permittee shall assure that the project meets the requirements of the Public Works Directors or the Flood Control Districts, whichever has jurisdiction over the site and surrounding area and is responsible for assuming adequate flood protection for the surrounding communities. The permittee shall provide a letter to the Commission indicating that the review has been done and that inland areas will not flood as a result of the work shown on the plan. The Commission makes no warrants as to the adequacy of the flood protection provided by the project and is not responsible for any flooding that may result.

J. **In-Kind Repairs and Maintenance.** Any in-kind repairs and maintenance of the facilities authorized herein shall only use construction material that is approved for use in San Francisco Bay. Construction shall only occur during current approved months during the year to avoid potential impacts to fish and wildlife. BCDC staff should be contacted to confirm current restrictions.

K. **Riprap**

1. **Riprap Material.** Riprap material shall be either quarry rock or specially cast or carefully selected concrete pieces free of reinforcing steel and other extraneous material and conforming to quality requirements for specific gravity, absorption, and durability specified by the California Department of Transportation or the U. S. Army Corps of Engineers. The material shall be generally spheroid-shaped. The overall thickness of the slope protection shall be no more than three feet measured perpendicular to the slope. Use of dirt, small concrete rubble, concrete pieces with exposed rebar, large and odd shaped pieces of concrete, and asphalt concrete as riprap is prohibited.

2. **Riprap Placement.** Riprap material shall be placed so that a permanent shoreline with a minimum amount of fill is established by means of an engineered slope not steeper than two (horizontal) to one (vertical). The slope shall be created by the placement of a filter layer protected by riprap material of sufficient size to withstand wind and wave generated forces at the site.

3. **Riprap Plans**

   a. **Design.** Professionals knowledgeable of the Commission's concerns, such as civil engineers experienced in coastal processes, should participate in the design of the shoreline protection improvements authorized herein.

   b. **Plan Review**. No work whatsoever shall be commenced on the shoreline protection improvements authorized herein until final riprap plans have been submitted to, reviewed, and approved in writing by or on behalf of the Commission. The plans shall consist of appropriate diagrams and cross-sections that (1) show and clearly label the 5-foot (NGVD or NAVD) contour line (the mean high tide line), property lines, grading limits, and details showing the location, types, and dimensions of all materials to be used, (2) indicate the source of all materials to be used, and (3) indicate who designed the proposed shoreline protection improvements and their background in coastal engineering and familiarity with the Commission's concerns. Approval or disapproval of the plans shall be based upon (1) completeness and accuracy of the plans in showing the features required above, (2) consistency of the plans with the terms and conditions of this amended permit, (3) assuring that the proposed fill material does not exceed this amended permit, (4) the appropriateness of the types of fill material and their proposed manner of placement, and (5) the preparation of the plans by professionals knowledgeable of the Commission's concerns, such as civil engineers experienced in coastal processes. All improvements constructed pursuant to this amended permit shall conform to the final approved plans. No changes shall be made thereafter to any final plans or to the constructed shoreline protection improvements without first obtaining written approval of the change(s) by or on behalf of the Commission.

4. **Maintenance.** The shoreline protection improvements authorized herein shall be regularly maintained by and at the expense of the permittee, any assignee, lessee, sublessee, or other successor in interest to the project. Maintenance shall include, but not be limited to, collecting any riprap materials that become dislodged and repositioning them in appropriate locations within the riprap covered areas, replacing in-kind riprap material that is lost, repairing the required filter fabric as needed, and removing debris that collects on top of the riprap. Within 30 days after notification by the staff of the Commission, the permittee or any successor or assignee shall correct any maintenance deficiency noted by the staff.

~~L. **Site Access.** The permittee grants permission to any member of the Commission's staff to conduct a site visit at the subject property during and after construction to verify that the project is being/has been constructed in compliance with the authorization and conditions contained herein. Site visits may occur during business hours without prior notice and after business hours with 24 hour notice.~~

~~M. **Notice to Contractor.** The permittee shall provide a copy of this document to any contractor or person working in concert with the permittee to carry out the activities authorized herein and shall point out the special conditions contained herein.~~

~~N.~~ L. **Abandonment**. If, at any time, the Commission determines that the improvements in the Bay authorized herein, have been abandoned for a period of two years or more, or have deteriorated to the point that public health, safety or welfare is adversely affected, the Commission may require that the improvements be removed by the permittee, its assignees or successors in interest, or by the owner of the improvements, within 60 days or such other reasonable time as the Commission may direct (Amendment No. One).

~~O.~~ M. **Certification of Contractor Review.** Prior to commencing any grading, demolition, or construction, the general contractor or contractors in charge of that portion of the work shall submit written certification that s/he has reviewed and understands the requirements of the amended permit and the final BCDC-approved plans, particularly as they pertain to any public access or open space required herein, or environmentally sensitive areas.

~~P.~~ N. **Construction Operations**. All construction operations shall be performed to prevent construction materials from falling, washing or blowing into the Bay. In the event that such material escapes or is placed in an area subject to tidal action of the Bay, the permittee shall immediately retrieve and remove such material at its expense.

~~Q.~~ O. **Hold Harmless and Indemnify**. The permittee shall hold harmless and indemnify the Commission, all Commission members, Commission employees, and agents of the Commission from any and all claims, demands, losses, lawsuits, and judgments accruing or resulting to any person, firm, corporation, governmental entity, or other entity who alleges injuries or damages caused by work performed in accordance with the terms and conditions of this amended permit. This condition shall also apply to any damage caused by flooding of or damage to property that is alleged to be caused as a result of some action or lack of action by the Commission growing out of the processing of and issuance of this amended permit.

~~R.~~ P. **Notifying NOAA to update Nautical Charts.** Within 30 days of the completion of the project authorized by this amended permit, the permittee shall provide written verification to the Commission that it has submitted to the Nautical Data Branch of the National Oceanic and Atmospheric Administration (NOAA) the following: (1) (a) as-built drawings, blueprints or other plans that correctly depict the completed development or, if the project involves the removal of an existing development; (b) a list of the existing development(s) that have been removed and a statement from a qualified engineer or professional salvage company certifying which portions of the development have been removed; (2) the geographic coordinates of the project using a differential geographic positioning system (DGPS) unit or other comparable equipment suitable for providing location on a Nautical Chart; and (3) the permittee's name and contact information (such as a mailing address, telephone number, fax number and/or e-mail address).

~~S.~~ Q. **Recording**. The permittee shall record this amended permit or a notice specifically referring to this amended permit on all parcels affected by this amended permit with Napa County within 30 days after execution of the amended permit issued pursuant to this amended authorization and shall, within 30 days after recordation, provide evidence of recordation to the Commission.

III. Findings and Declarations

This amended authorization is given on the basis of the Commission's findings and declarations that the work authorized herein is consistent with the McAteer-Petris Act, the *San Francisco Bay Plan*, the California Environmental Quality Act, and the Commission's amended coastal zone management program for San Francisco Bay for the following reasons:

A. **Fill.** Section 66605 of the McAteer-Petris Act states, in part, that: (1) fill in the Bay and certain waterways can be authorized only when the public benefits of the fill exceed the public detriment from the loss of water areas; (2) fill in the Bay and certain waterways must be limited to water-oriented uses (such as wildlife refuges, water-oriented recreation, or airports) or minor fill for improving shoreline appearance or for public access; (3) fill can be authorized only when no alternative upland location exists for such purposes; (4) the water area authorized to be filled should be the minimum necessary to achieve the purpose of the fill; and (5) the nature, location and extent of any fill should be such that it will minimize harmful effects to the Bay Area, such as, the reduction or impairment of the volume surface area or circulation of water, water quality, fertility of marshes or fish or wildlife resources.

The originally authorized project (Ponds 1 through 5) and Material Amendment No. One (Napa Plant site), as amended, ~~would~~ resulted in fill in two areas of the Commission's jurisdiction, certain waterways and salt ponds. The project authorized under Material Amendment No. Three (Ponds 6, 6A, 7, 7A and 8) will result in fill in the Commission's salt pond jurisdiction only. Fill in the Commission's certain waterways jurisdiction may be authorized only if the Commission can find that the fill meets the tests of all of the subsections cited above. Fill in the Commission's salt pond jurisdiction must meet the test of subsections four and five.

1. **Ponds 1-5.** The fill authorized in certain waterways for the originally authorized project ~~continuing~~ consisted of the small amount of fill associated with the water control structures extending into sloughs and the 75 square feet of fill for a new floating kayak/canoe portage in South Slough to replace the CDFG floating boat dock. The fill placed within salt ponds will consist of material used for berms, levee strengthening, ditch blocks, water control structures, raising the elevations of the pond bottoms and two kayak/canoe portages (the kayak/canoe portages were subsequently deleted in Amendment No. Two and replaced with a fishing pier and boat launch dock in Cullinan Ranch).

2. **Napa Plant Site.** The fill authorized in certain waterways for the Napa Plant Site consists entirely of riprap placed to protect levees from eroding that are located adjacent to the levees, which will be lowered to facilitate tidal circulation.

   a. **Public Benefits v. Public Detriment**

      ~~(1) **Ponds 1-5.** Approximately 75 square feet of floating fill will be placed in the Commission's "certain waterway" jurisdiction. The floating fill is for the installation of a kayak portage on South Slough. The portage will enable kayak and canoe users water access to South Slough and to the overall NSMWA. Currently, opportunities for water access to the area are limited.~~

      ~~(2)~~ (1) **Napa Plant Site.** Approximately 266 cubic yards of material constituting solid fill at levees below the Mean High Water Line (MHW), to strengthen levee breaches at the Napa Plant Site, will be placed in the Commission's "certain waterway" jurisdiction. One of the levee segments to be protected is a location where public access will be installed.

   The Commission finds that the public benefits associated with the fill ~~for the kayak/canoe portage on South Slough and the fill~~ placed to protect remaining levee segments for public access and to protect inland areas from flooding provide important public benefits that exceed the public detriment from its placement.

b. **Water-Oriented Use.** Section 66605(a) of the McAteer-Petris Act states that, "...[f]urther filling of San Francisco Bay and certain waterways...should be...limited to water-oriented uses..." and "...minor fill for improving ... public access to the bay...."

~~(1) **Ponds 1-5.** The purpose of the fill associated with the kayak/canoe portage will be to provide improved water access to the NSMWA, both a water-oriented use and a public access amenity.~~

~~(2)~~ (1) **Napa Plant Site.** The purpose of the riprap is to protect levees providing public access and to protect areas from flooding that might result from lowering adjacent levees to promote tidal marsh restoration. Both public access and wildlife refuge are defined as water-oriented uses.

The Commission therefore finds that the fill associated with the ~~kayak/canoe portage on South Slough and the~~ riprap placed to protect the levee segment, which will provide for improved access to the Bay, are water-oriented uses and, thus, are consistent with the McAteer-Petris Act.

c. **Alternative Upland Location.** ~~There is no alternative upland location for the portage as the purpose of its placement is to provide water access to the wildlife area. Further, t~~There is no alternative upland location for the fill for the levee strengthening because the riprap is needed to protect levee segments that will be vulnerable as a result of lowering adjacent levees.

~~The Commission finds that there is no alternative upland location for the kayak/canoe portage because it is intended to provide direct water access to South Slough and the other waterways of the wildlife area.~~ The Commission concurs and finds that there is no alternative upland location ~~and~~ for the riprap as it is needed to ~~that will~~ protect the levees from continued erosion ~~thus, must be located in the slough~~.

d. **Minimum Fill Necessary**

(1) **Ponds 1-5.** The permittee states that the fill that will be placed with the project is the minimum amount necessary to repair levees~~,~~ and replace existing water control structures and construct hydrologic and topographic features, such as ditch blocks, berms, etc., in a manner that helps to effectively reduce salinity and restore habitats within the ponds as well as to provide public access. The permittee further states that the fill is necessary to maintain the structural integrity of several existing levees, to construct features such as starter channels in order to produce the appropriate hydrologic conditions conducive to salinity reduction of the former salt ponds, and to raise pond bottoms to accelerate the natural evolution of the ponds to tidal marsh.

(2) **Napa Plant Site.** Fill will be placed in salt ponds at the Napa Plant Site to create a Runway Safety Area (RSA) for the Napa County Airport, accelerate marsh development on areas of the site returned to tidal action, improve levees, construct a vehicle access road, and improve public access. The fill to create a RSA is designed to establish upland habitat, which will be less likely to attract large birds that could pose a hazard to planes using the adjacent airport. Because the primary goal of the project is to restore wetland habitat, the permittee worked to assure that the fill placed to create a runway safety

zone will be the minimum needed to enhance increased aircraft safety. The fill material that will be used on site will be generated from other activities such as levee lowering; thus, the fill material will be redistributed within the project area for maintenance and restoration improvements.

Because most of the fill within the salt ponds is being placed to accelerate marsh formation and because the fill that will be placed is only a small portion of the sediment needed to bring the ponds to marsh plain elevations to encourage marsh formation, the Commission finds that the fill placed with the project will be the minimum necessary to construct the project. The Commission further finds, that the fill placed for the Runway Safety Area is the minimum amount needed to assure aircraft safety at the existing adjacent airport while still furthering the primary project purpose of wetland restoration.

(3) **Ponds 6, 6A, 7, 7A and 8.** The fill placed with the project, approximately 46,000 cubic yards of material over 16.0 acres to strengthen and raise existing embankments, is the minimum amount necessary to provide for the long-term stability of embankments, reduce the likelihood that the embankments will be overtopped, and to prevent the uncontrolled release of bittern that could adversely affect both fish and wildlife. The size of the water control structures are the minimum necessary to allow for the slow and controlled dilution and release of bittern from Pond 7 and to allow for the long-term management of all ponds as open water pond habitat for wildlife. The fill will minimize harmful effects to the Bay by strengthening embankments around Pond 7, preventing the release of deleterious bittern into the Napa River and adjacent sloughs. By enhancing the ability to manage for wildlife and fish habitat, the ponds will allow the California Department of Fish and Game the ability to manage ponds to create diverse conditions favoring fish and wildlife. For all these reasons, the Commission finds that the fill placed with the project is the minimum necessary to ensure the long-term management of the ponds and to safely remove bittern from the project site.

e. **Minimizing Impacts.** The EIS/EIR prepared for Ponds 1-5 ~~the project~~ indicated that construction and operation of the project could potentially result in significant adverse impacts to hydrology. Specifically, while the project will result in beneficial impacts on flooding because the ponds will act as a retention basin, there is the potential for channel and marsh erosion and damage to adjacent Department of Fish and Game levee systems after the initial levee breaches because of dramatic increases in the volume of water moving in the sloughs and channels adjacent to the ponds where tidal action will be restored. To prevent erosion and potential damage to adjacent levee systems, the permittee will repair unintended levee breaches if necessary that would compromise the selected restoration option, if any such breaches should occur. Tidal channels on and adjacent to restored marshlands will be larger after restoration than under existing conditions as a result of natural channel erosion caused by the increased tidal prism in the channels. Consequently, the flood conveyance capacity of major tidal channels will be increased, lowering flood risk on nearby parcels. Reestablishing tidal connectivity will initially increase the flow in tidal channels, thereby increasing the potential for erosion of levees as a result of tidal currents and seepage-related failures. Consequently, there will be an initial increase in the risk of property loss along South and Dutchman Sloughs. In order to reduce the risk of levee failure on the adjacent U.S. Fish and Wildlife Service's Cullinan

ranch property, the restoration of Pond 3 will be phased such that levees at Pond 3 will not be breached at locations that could potentially increase channel scour and levee erosion along Dutchman Slough until the planning for the Cullinan Ranch project is sufficiently advanced such that any accidental levee breach as a result of levee scour would not adversely affect the property or the future of the Cullinan Ranch restoration project. The permittee will monitor channel slough expansion in coordination with the USGS through an existing Calfed grant. If channel expansion threatens adjacent levee systems, an adaptive management team will recommend measures to protect the levees. Additionally, a monitoring and adaptive management plan for the project will be implemented once and if adequate funding has been obtained by Congress. The plan will allow for monitoring of slough channel expansion to accommodate additional tidal prism and to ensure that the expansion does not threaten the adjacent levee systems.

Potential impacts to water quality may also result from project implementation. The permittee will implement several measures to reduce potential impacts to water quality that are discussed in more detail below in the section entitled, "Water Quality Policies".

The EIS/EIR also contains a mitigation monitoring and reporting program, which requires the permittee to comply with several measures that will reduce potentially significant environmental effects. These include performing pre-construction surveys for special-status wildlife and plant species and implementing best management practices during project construction.

The Commission finds that the project has been designed to minimize harmful impacts as a result of fill placement because it includes provisions for monitoring erosion of adjacent levee systems and repairing damaged levees, if necessary, and phasing the breaching of levees along Pond 3 such that future planning efforts for Cullinan Ranch will not be compromised.

Napa Plant Site. In addition to Section 66605 of the McAteer-Petris Act regarding effects of fill on water volume and circulation, the Bay Plan policies on water surface area and volume state that, "[w]ater circulation in the Bay should be maintained, and improved as much as possible. Any proposed fills, dikes or piers should be thoroughly evaluated to determine their effects on water circulation and then modified as necessary to improve circulation or at least to minimize any harmful effects."

The placement of fill associated with the project would only occur within the Commission's salt pond jurisdiction and would have beneficial impacts on the water circulation or volume of the Bay, and would benefit and increase fish and wildlife and marsh fertility. There is no upland location for the project because the purpose of the project is wetland restoration in salt ponds and there is no alternative location for the Runway Safety Area fill because this area is within 1,000 feet of the end of airport runway. The applicant has also established a Habitat Mitigation and Monitoring Plan for each phase of the project, ~~which~~ to addresses ~~any~~ potential impacts to natural resources from the project and how those impacts would be minimized and avoided through using protective measures.

Ponds 6, 6A, 7, 7A and 8. The placement of fill associated with Ponds 6, 6A, 7, 7A, and 8 will only occur within the Commission's salt pond jurisdiction. The fill to raise and strengthen embankments and replace water control structures is designed and will be managed to increase water exchange between the ponds and the Bay, to safely eliminate bittern and to improve the ability to manage the ponds for specific habitat and species. Such management will benefit the Bay's water circulation and volume, and is expected to fish and wildlife population and marsh fertility. A Habitat Mitigation and Monitoring Plan for this phase of the project has been developed to address the project's potential impacts to natural resources and ways to minimize and avoid such adverse impacts through using adaptive management and protective measures.

In addition, to address sea level rise and climate change issues, Special Condition II-C-3-b requires the permittee to work with the Commission and other public access agencies to replace any lost public access areas due to flooding and relocate the access along the inland edge of the ponds if possible or to an alternate access inland.

For these reasons, the Commission finds that the fill placed with the project, as amended, as been designed and will be constructed to minimize impacts on the Bay and its resources.

B. **Maximum Public Access.** Section 66602 of the McAteer-Petris Act states that existing public access to the shoreline and waters of San Francisco Bay is inadequate and that maximum feasible public access, consistent with a proposed project, should be provided. Regarding salt ponds, Section 66602.1 of the Act states, in part, that "...if any such areas are authorized to be developed and used for other purposes, the development should provide maximum public access to the bay consistent with the proposed project...."

The Bay Plan policies on public access state that, "...[P]ublic access to some natural areas should be provided to permit study and enjoyment of these areas. However, some wildlife are sensitive to human intrusion. For this reason, projects in such areas should be carefully evaluated in consultation with appropriate agencies to determine the appropriate location and type of access to be provided.…" The policies go on to state, "...Public access should be sited, designed and managed to prevent significant adverse effects on wildlife..." and "...[P]ublic access improvements provided as a condition of any approval should be consistent with the project and the physical environment**,** including protection of Bay natural resources, such as aquatic life, wildlife and plant communities, and provide for the public's safety and convenience. The improvements should be designed and built to encourage diverse Bay-related activities and movement to and along the shoreline, should permit barrier free access for the physically handicapped to the maximum feasible extent, should include an ongoing maintenance program, and should be identified with appropriate signs.…"

1. **Ponds 1-5.** Ponds 1 though 5 are part of a state wildlife area and are open to the public daily. Currently, the permittee manages the site for wildlife and wildlife-compatible uses, including recreation compatible with wildlife protection. Multiple users, including bicyclists, hikers, anglers and duck hunters, visit the project area and surrounding area. Access to the northern project area requires travel through a portion of the Huichica Creek Unit of the NSMWA. The permittee provides two public parking lots, one off of State Route Highway 37 and one north of the salt ponds at the end of Buchli Station Road. While the area is open to the public, access

is limited because of the lack of all-weather trails on site and because Ponds 2, 2A 3, 4 and 5 are on islands and inaccessible by land. Thus, an important way to access the site is by boat. There are two nearby boat launches, one off of Cutting Wharf Road and the other off of Skaggs Island Road.

To ensure that the Ponds 1-5 project provides maximum public access, Special Conditions II-C-1 ~~through II-C-4,~~ require the permittee to provide the following public access amenities: (1) relocate and improve an existing public access parking lot at the southeast corner of Pond 1; ~~(3)~~ (2) improve existing public access along approximately 8,850 feet of the eastern levee of Pond 1 ~~will be improved for 8,850 feet~~ by reinforcing the levee and creating a more stable surface of rock on top of the levee that is required to be maintained and accessible throughout the year; and (3) fund the construction of one, ADA-accessible, pile-supported kayak launch (Amendment No. Two). Improvements will consist of paving a 3,948-square-foot, eight parking space lot (including one handicap accessible space), removing existing unattractive fencing and replacing it with a new, seven-foot-tall chain link fence and gate with a handicap accessible opening and providing interpretative and informational signage; ~~(2) three kayak/canoe portages that will be approximately 75 square feet each. These portages will be located at the southeast corner of Pond 1, the north corner of Pond 1 and at South Slough. The permittee will manage water levels in Pond 1 for waterfowl in the winter and shorebirds in the summer. Thus, it is anticipated that the portages in Pond 1 will be accessible for about 6 months out of the year. The portage at South Slough will be accessible year round and will include a floating material component, so that portable boat users can launch their boats at most tidal stages; and (4) the public access amenities associated with the Napa Plant Site as described above in *"Public Access at the Napa Plant Site".*~~ The original authorization for the construction of Ponds 1-5 required the construction of three kayak/canoe portages that was subsequently removed in Amendment No. Two and replaced with the requirement to fund the construction of one, ADA-accessible, pile-supported kayak launch. Additionally, Special Condition ~~II-D-4-5~~ II-C-5 requires the permittee to submit a public access plan to the Commission. This plan will contain information on existing and future public access opportunities in the project vicinity and will be a valuable tool in determining potential public access opportunities for future projects.

To ensure that the project is consistent with the Bay Plan policies on public access and wildlife, Special Condition ~~II-D-7~~ II-C-7 has been included in this authorization. This special condition allows the permittee to impose reasonable rules and restrictions on public access areas. Such restrictions could potentially affect pond access if kayak/canoe use is found to have a significant affect on wildlife in the ponds.

The restoration activities will enhance habitat for a number of plant, fish and wildlife species. Overall, these habitat quality enhancements will increase the recreational potential of the site. The site will be more attractive to the public as species populations and composition increase and tidal marsh becomes established. Thus, the restoration activities can be expected to enhance existing access at the site and make it a more desirable destination for hikers, bird watchers, anglers and hunters.

2. **Public Access at the Napa Plant Site.** Currently, there is no public access at the Napa Plant Site. This portion of the refuge is located in an isolated area west of the City of American Canyon and is accessible only from Green Island Road. The closest Bay Trail segments are approximately 2.5 to 3 miles from the project site and include an unimproved trail with no bike lanes or sidewalks on the street along Highway 29,

on-street bike lanes along American Canyon Road extending east from Highway 29, and an off-street, shared-use pathway on Wetlands Edge Road connecting American Canyon Road to Eucalyptus Drive to the north.

Green Island Road is not a through street, is lightly traveled, and is used primarily by agricultural vehicles, vehicles accessing adjacent commercial and industrial facilities, and local residents. Currently, the number of people accessing the shoreline from the end of Green Island Road, which is outside of the project boundary, is estimated at 10 per day. Cargill employees use the project site at an average of one person per day in the off-season and 15 people per day during the salt harvest.

The public access required herein and, as conditioned pursuant to Special Condition II-C-2 4, includes a series of 10-foot-wide, ADA-compliant, gravel public bicycle and pedestrian trails totaling 6.2 miles. The public access trails will provide potential connections for future regional trails that are currently under study. The trails will provide access along the levee tops, and will provide several opportunities for the public to be close to the restoration area for wildlife observation, hiking, and biking. In addition to the trails atop the levees, a short segment of trail will be established along the southwest side of Green Island, which is a naturally-occurring upland area. This segment will allow the public to experience an elevated and more expansive view of the restoration site and the surrounding areas.

Additional public access improvements include a public access staging area with two public parking lots, a public restroom, picnic areas, a new vehicle access road, and site amenities such as benches, trash cans, and interpretive signage. Hand launching of non-motorized watercraft at the existing boat dock and ramp adjacent to the barge channel will also be allowed and improved as authorized herein. A detailed sign program will be developed to lead the public to the shoreline and to provide clear direction to existing and future trail network connections. The permittee states that once public access improvements are installed, the expected number of visitors using the project site will initially range from 30 to 40 people per day during the week to 75 to 100 people per day on the weekends.

The trail system does not have a continuous connection from the North Unit, Ponds 9 and 10 to the Central Unit along W1 to W3, due to the presence of the Sonoma-Marin Area Rail Transit's (SMART) existing railroad tracks. The City of American Canyon and Napa County are conducting feasibility studies funded by the Association of Bay Area Government's Bay Trail program for developing an 8-mile-long segment of the Bay Trail from the City of American Canyon to the City of Napa. The public access authorized herein will be an important segment of this larger regional trail network under study. Although the permittee will install public access along the southern edge of Ponds 9 and 10 and along the northern edge of the Central Unit, it will not be possible for the public to move between these two sections of trail without a railroad crossing over or underneath the SMART railroad tracks. The permittee is willing to coordinate with the City of American Canyon, Napa County, and the Bay Trail to ensure that this crossing could be established in the future. Furthermore, should the City, the County, and/or Bay Trail receive funding to develop additional improvements on the levee trails proposed as part of this project, the permittee will coordinate with those agencies to allow the improvements to be installed. Special Condition II-C-6 of this amended permit ensures that the permittee will coordinate with the City, County, and the Bay Trail to establish a public access crossing across or underneath the SMART railroad tracks and ensure that any funding received to implement improvements will be used in such a manner at the site.

The Central and South Units of the restoration project will be managed as part of the Green Island Unit of the Napa Sonoma Marshes Wildlife Area. These areas will be available to the public for multiple uses such as hiking, biking, fishing, boating, bird watching, and hunting. Because the North Unit of the Napa Plant Site restoration will be managed as part of the Fagan Marsh Ecological Reserve, hunting will not be allowed on this portion of the project site.

~~The primary goal of the project is to enhance habitats for a number of plant, fish and wildlife species. These habitat enhancements will increase the recreational potential of the site. As the site evolves and the habitats mature, the site will be more attractive to the public as species populations and composition increase. Thus, the restoration activities are expected to enhance access and recreation at the site and make it a more desirable destination for hikers, boaters, bird watchers, anglers and possibly hunters.~~

3. **Ponds 6, 6A, 7, 7A and 8.** For the restoration of Ponds 6, 6A, 7, 7A, and 8 public access will include leveling the tops of the eastern embankment of Ponds 7/7A and the perimeter of Pond 8, adding an ADA-accessible gravel surface and providing a minimum width pathway on these embankments of 10 feet. In addition, interpretative signs will be installed at a total of five locations along the ponds and rustic seating will be installed at the southern end of the eastern trail along Ponds 7 and 7A. An internal embankment separating Ponds 7 and 7A provides nesting habitat for the state- and federally-endangered California least tern and the federally-threatened Western snowy plover and will remain available for public access much of the year but will be closed during the nesting season, between March and September 1, annually.

   The primary goal of the project is to enhance habitats for a number of fish and wildlife species. These habitat enhancements will increase the recreational potential of the site. As the site evolves and the habitats mature, the site will be more attractive to the public as species populations and diversity increase. Thus, the restoration activities can be expected to enhance access and recreation at the site and make it a more desirable destination for hikers, boaters, bird watchers, anglers and possibly hunters.

   For the reasons stated above, the Commission finds that the project provides maximum feasible public access, consistent with the project, and that the access is consistent with the Bay Plan policies on public access, particularly those policies pertaining to public access and wildlife.

C. **Salt Pond Policies.** The Bay Plan policies on salt ponds state, in part, that "[t]he use and maintenance of salt ponds for salt production should be encouraged…. property tax policy should assure that rising property taxes do not force conversion of the ponds and other wetlands to urban development." The salt pond policies also state that, "[i]f the owner of any salt ponds withdraws any of the ponds from their present uses, the public should make every effort to buy these lands, and restore, enhance, or convert, these areas to subtidal or wetland habitat. This type of purchase should have a high priority for any public funds available, because opening ponds to the Bay represents a substantial opportunity to enlarge the Bay…and can increase public access…."

In a letter dated March 2, 2005, Cargill Salt Division (the former site owner) states that the vast majority of the Napa salt production lands took the shape of ponds through which brines were concentrated through evaporation before harvesting occurred at the Napa Plant Site on the east side of the Napa River. In terms of production, the Napa Plant Site processed and distributed raw, bulk salt sold directly from the salt stack. Changes in the business climate leading up to the 1990s resulted in a reduced demand for the bulk salt produced at the Napa Plant site. Such changes related to factors such as

market demand for Napa salt, the economics of salt production in Napa and the increased environmental regulation of both Cargill and its customers. Thus, Cargill states that the mid 1990s was the appropriate time to divest the Napa salt production lands. In 1994, Cargill Salt sold the Napa ponds to the State of California, which, in turn, assigned ownership and management of the ponds to the CDFG. Cargill's letter further states that since the Napa salt production system operated separate from Cargill's South Bay operations, the Napa divestiture did not negatively impact the continued viability of Cargill's other operations.

The restoration of the project area has long been a vision for local resource agencies, conservationists and planners. It is one of the largest tidal restoration projects on the west coast of the United States. Implementation of the project would result in substantial enlargement of the Bay. Approximately 4,586 acres of tidal marsh will eventually be created at the site and ~~1,682~~ 3,582 acres will be managed as either deep-water ponds or muted tidal/shallow water ponds attracting waterfowl and shorebirds. In addition transitional habitat will be created to increase habitat diversity and a high tide refuge for animals inhabiting the wetlands. The permittee will also provide public access amenities with the project, as described above.

Because these ponds are being converted to a variety of wetland and transitional habitats as envisioned in the Bay Plan's salt pond policies, the Commission finds that the project is consistent with the Commission's policies on salt ponds.

D. **Bay Plan Policies on Natural Resources.**

Tidal Marshes, ~~and~~ Tidal Flats and Subtidal Areas. The Commission's policies on tidal marshes and tidal flats state in part, "[w]here and whenever possible, former tidal marshes and tidal flats that have been diked from the Bay should be restored to tidal action in order to replace lost historic wetlands or should be managed to provide important Bay habitat functions.…" The policies go on to state, "[a]ny tidal restoration project should include clear and specific long-term and short-term biological and physical goals, and success criteria and a monitoring program to assess the sustainability of the project. Design and evaluation of the project should include an analysis of: (a) the effects of sea level rise; (b) the impact of the project on the Bay's sediment budget; (c) localized sediment erosion and accretion; (d) the role of tidal flows; (e) potential invasive species introduction, spread and their control; (f) rates of colonization by vegetation, where applicable; (g) expected use of the site by fish, other aquatic organisms and wildlife; and (h) site characterization. If success criteria are not met, appropriate corrective measures should be taken..."

The Bay Plan policies on subtidal areas state that in part, "[s]ubtidal restoration projects should be designed to: (a) promote an abundance and diversity of fish, other aquatic organisms and wildlife; (b) restore rare subtidal areas; (c) establish linkages between deep and shallow water and tidal and subtidal habitat in an effort to maximize habitat values for fish, other aquatic organisms and wildlife; or (d) expand water open areas in an effort to make the Bay larger...." The Bay Plan policies on subtidal habitats also state that subtidal restoration projects should include monitoring programs and describe variables that should be monitored, similar to those variables described in the tidal marsh and tidal flats policy described above.

The project will provide both managed pond and tidal marsh habitats, as well as subtidal habitats that will be found in tidal sloughs and channels and in the pond interiors for the initial few years following introduction of tidal action to the ponds. It is anticipated that tidal marsh evolution in Ponds 4 and 5 will take up to 50 years due to the huge amount of sediment needed to bring the subtidal ponds up to marsh elevation and

the relative lack of sediment in the tidal waters. To accelerate marsh establishment in these ponds, as well as at the Napa Plant Site material excavated during project activities (levee breaching, excavating starter channels) will be placed along much of the pond bottoms, creating elevations suitable for tidal marsh vegetation establishment or initiating the process of building up site elevations to levels suitable for plant establishment. Once tidal marsh has become fully established, it is expected that Ponds 1-5 and the Napa Plant Site will provide a total of 4,586 acres of tidal marsh, ~~1,682~~ 3,582 acres of managed pond habitat, and 42 acres of transitional habitat. This habitat is anticipated to provide habitat for numerous fish, wildlife and plant species, including those species that are considered special-status species such as the California clapper rail and the salt marsh harvest mouse.

The permittee received $15.5 million in grants from the Wildlife Conservation Board and CalFed to cover costs associated with pre-construction surveys and construction. The U.S. Geological Survey (USGS) was awarded a three-year grant for habitat monitoring of Ponds 3 through 5 from November 2003 through November 2006. Levee breaches at Ponds 4 and 5 ~~will~~ occurred during the Winter of 2005-2006. The USGS applied for another three-year Calfed grant to continue monitoring for habitat evolution and species use at Ponds 3-5. It is uncertain at this time whether the Calfed grant will be awarded to the USGS. The permittee and the Corps ~~may~~ have entered into a cost sharing agreement (65% federal funds, 35% state funds) for restoration ~~of all or a portion~~ of the Napa Sonoma Wildlife Area. ~~This project, should it be authorized by Congress, will include a~~ A final habitat Monitoring and Adaptive Management Plan (MAMP) has been prepared and requires monitoring of specified environmental parameters (e.g., invertebrates, bird and fish use, vegetation, sedimentation, etc.). The MAMP is an integral part of the project developed by the permittee as it is necessary to address project uncertainties, propose adaptive measures to improve project performance, addresses unanticipated project variables and ensures project success. ~~Congress has yet to authorize restoration of all or a portion of the Napa Sonoma Wildlife Area project and it is uncertain if and when this project will be authorized. Additionally, the federal government will not fund permit requirements of State agencies.~~

To ensure that long-term habitat monitoring occurs on the site, several conditions have been included in this authorization. Special Condition II-B-1 prohibits the permittee from breaching levees at Ponds 4 and 5 and the Napa Plant Site, and commencing construction activities at Ponds 6, 6A, 7, 7A and 8, until it receives Commission approval of a marsh monitoring plan. Additionally, Special Condition II-B-2 requires the permittee to submit monitoring information and data from all marsh monitoring studies conducted at the site. Special Condition II-B-4 requires the permittee to create or use an existing Technical Advisory Committee that will meet once a year to review the status of the project and to recommend adaptive management measures, if needed.

Fish, Other Aquatic Organisms and Wildlife. The Bay Plan policies on Fish, Other Aquatic Organisms and Wildlife state: "[t]o assure the benefits of fish, other aquatic organisms and wildlife for future generations…the Bay's tidal marshes, tidal flats, and subtidal habitat should be conserved, restored, and increased" (Policy No. 1). These policies also state that "[t]he Commission should consult with the California Department of Fish and Game and the U.S. Fish and Wildlife Service or the National Marine Fisheries Service whenever a proposed project may adversely affect an endangered or threatened plant, fish, other aquatic organism or wildlife species…[and] give appropriate consideration of [their] recommendations in order to avoid possible adverse impacts of a proposed project on fish, other aquatic organisms and wildlife habitat" (Policy No. 2). The policies

further state that "[t]he Commission may permit a minor amount of fill or dredging in wildlife refuges, shown on the Plan Maps, necessary to enhance fish, other aquatic organisms and wildlife habitat or to provide public facilities for wildlife observation, interpretation, and education" (Policy No. 5).

1. **Ponds 6, 6A, 7, 7A and 8.** The proposed project will enhance open-water pond habitat by improving water quality and allow ponds 6, 6A, 7, 7A and 8 to be managed as open water ponds in the future. The project will also decrease and ultimately remove bittern from Pond 7, a deleterious substance to fish and wildlife, and will strengthen the embankment that separates Pond 7 from other nearby water bodies. With project implementation; the ponds will be managed for different species such that Ponds 6/6A and 7/A will be converted to shallow-water managed ponds for shorebirds during the dry season and maintain water depths appropriate to waterfowl during the wet season, and Pond 8 will remain a deep water pond for waterfowl.

   The applicant has completed consultation with the U.S. Fish and Wildlife Service's (USFWS) Endangered Species Branch (ESB). The Biological Opinion dated October 31, 2012, represents the USFWS opinion on the effects of the proposed action on the threatened delta smelt (*Hypomesus transpacificus*), endangered salt marsh harvest mouse (*Reithrodontomys raviventris*), endangered California clapper rail (*Rallus longirostris obsoletus*), threatened western snowy plover (*Charadrius alexandrinus nivosus*), and the endangered California least tern (*Sternula antillarum browni*). The USFWS concurs that the proposed project is not likely to adversely affect any of these species.

   USFWS has also determined that the proposed project is not likely to result in jeopardy to the continued existence of the California clapper rail, California least tern, Western snowy plover, the salt marsh harvest mouse, or delta smelt, provided the reasonable and prudent measures and the implementation of the conservation and avoidance measures as described in the Biological Opinion and appearing in the Biological Assessment and the Habitat Mitigation and Monitoring Plan prepared for the project are implemented. Measures contained in the Biological Opinion that will be implemented to reduce impacts to special-status species include increasing the available nesting habitat for the California least tern and the Western snowy plover along the embankment that separates Ponds 7 and 7A. This enhancement will result in an increase of 2.0 to 2.5 acres of potential nesting and cover habitat for these species. In addition, fish screens will be used on the Pond 7A intake structure to prevent the entrainment of juvenile and adult delta smelt, and intake of water into Pond 7A will be avoided if delta smelt larvae are detected.

The Commission finds that, with implementation of the Special Conditions contained herein, the project is consistent with its policies regarding tidal marshes and tidal flats, and subtidal areas, and with its policies on wildlife, fish and other organisms.

~~4.~~ E. **Water Quality Policies.** The Bay Plan policies on water quality state in part, that "[b]ay water pollution should be prevented to the greatest extent feasible. The Bay's tidal marshes, tidal flats, and water surface area and volume should be conserved and, whenever possible, restored and increased to protect and improve water quality. Fresh water inflow into the Bay should be maintained at a level adequate to protect Bay resources and beneficial uses...." The policies also state that "[w]ater quality in all parts of the Bay should be maintained at a level that will support and promote the beneficial uses of the Bay as identified in the *San Francisco Bay Regional Water Quality Control Plan, San Francisco Bay Basin* and should be protected from all harmful or potentially harmful pollutants. The policies, recommendations, decisions, advice, and authority of the State

Water Resources Control Board and the Regional Board, should be the basis for carrying out the Commission's water quality responsibilities." Finally, the policies also state that "[n]ew projects should be sited, designed, constructed, and maintained to prevent or, if prevention is infeasible, to minimize the discharge of pollutants into the Bay by: (a) controlling pollutant sources at the project site; (b) using construction materials that contain nonpolluting materials; and (c) applying appropriate, accepted, and effective best management practices, especially where water dispersion is poor and near shellfish beds and other significant biotic resources."

Ponds 1 through 5 and the Napa Plant Site. It is anticipated that the breach of the levee between Pond 4 and the Napa River would create short-term salinity increases in the Napa River. These short term salinity increases are expected to be no more than 12 parts-per-thousand (ppt), with increases expected to be greater near the west bank of the River and lesser at the east bank. While the initial increases would exceed the typical daily salinity variation in the Napa River of 5 ppt, they would not exceed the annual variation of 0 to 20 ppt. To ensure that the salinity in the Napa River will not be raised above a level normally occurring during low flow months, Special Condition II-F-1 has been included in this authorization. This Special Condition requires the permittee to time the initial breach between the Napa River and Pond 4 with a high flow event (typically during a winter storm) when large fresh water flows in the Napa River and water levels in Pond 4 are high and less saline.

The initial breach of the levee between Pond 4 and the Napa River will also create short duration increases in turbidity and suspended sediments in the Napa River. However, by implementing Special Condition II-F-1, the timing of the breach will occur when the waters of the Napa River will already be turbid. Thus, the short duration increases in turbidity and suspended sediment in the Napa River will be minor in comparison to the sediment flushes that occur in the Napa River during and after a significant rain event.

On August 5, 2004~~,~~ and on July 11, 2007, the Regional Water Quality Control Board (RWQCB) issued waste discharge requirements and a water quality certification ("Order") to the permittee for the project. The Order requires the permittee to monitor turbidity levels, salinity, pH, dissolved oxygen and certain nutrients, as well as other water quality parameters to ensure that these measures of water quality are within levels specified in the Basin Plan. To ensure that the potential water quality impacts are minimized, Special Condition II-F-2 of this authorization requires the permittee to comply with the RWQCB Orders issued for the project.

Ponds 6, 6A, 7, 7A and 8. The salinity in Pond 8 is similar to the salinity found in nearby sloughs and the Napa River. Salinities in Ponds 6, 6A, and 7A are elevated slightly compared to conditions in adjacent natural waterways, and are expected to achieve ambient salinity within one to two months of completion of construction. Because discharge will be regulated through water central structures, the rate of discharge from these ponds will be considerably lower than that which occurred through breaching of Ponds 3, 4, and 5, as well the as the Napa Plant Site (a total of four separately monitored breaching events). Past experience with these breaching events has shown that localized salinity increases during the salinity reduction period were well within the RWQCB permit requirements. There is also a natural daily fluctuation in the salinity of adjacent natural waterways of approximately 5 ppt. Salinity within the ponds and the receiving waters will be monitored as a condition of the RWQCB permit, and the gates installed on the various culverts provide control over the rate of discharge should any unexpected increases in salinity be identified.

Conditions in Pond 7 differ greatly from those found in the other ponds since it was historically used to store bittern. Bittern, a by-product of the salt-making process and consisting of all the other salts found in sea water, has a different ion balance than that which is found in seawater. Due to this ionic imbalance, concentrated bittern is deleterious to aquatic organisms and wildlife. In addition, the brine contained in Pond 7 is characterized by concentrations of priority pollutant metals such as copper and nickel that, due to the high concentration of the brine, exceed Regional Water Quality Control Board objectives.

The Regional Water Quality Control Board issued Order No. R2-2004-0063) for the restoration of and management of Ponds 1 through 6. On June 8, 2011, the RWQCB issued an additional certification (CIWQS Place No. 654284) to address ponds 7, 7A, and 8. In addition to these orders, the RWQCB issued a separate NPDES (CA 0030101) to ensure that the discharge of diluted bittern from Pond 7 complied with water quality limits.

The Commission finds that the project, as conditioned, is consistent with the Bay Plan policies on water quality.

F. **Methylmercury Concerns.** Methylmercury is a natural byproduct and occurs within wetlands and could cause a potential impact to aquatic organisms at Ponds 1 through 5 and the Napa Plant site where wetlands will be exposed to increased wetting and drying episodes, conditions strongly suspected of leading to methylation of mercury. Because Ponds 6, 6A, 7, 7A and 8 will be managed as "managed ponds", these ponds will not be exposed to such episodes of wetting and drying and mercury is not expected to methylate. There is evidence that shallow wetlands may be conducive to additional formation and accumulation of methylmercury. Elemental mercury is found in the environment as a result of natural and human activities. The amount of mercury that cycles through the environment has increased since the industrial age. During its movement through the atmosphere, water and land, mercury undergoes a series of complex chemical transformations. One of the products of these transformations is methylmercury. Methylmercury is easily absorbed into the living tissue of aquatic organisms and is not easily eliminated. Therefore, it accumulates in predators. Methylmercury can be highly toxic to birds and mammals and can cause a number of adverse effects if found in specific areas and concentrations. The degree to which mercury is transformed into methylmercury and transferred up the food chain depends on many site-specific factors (such as water chemistry and the complexity of the food web) and through processes that are not completely understood. It is believed that the increased wetting and drying of wetlands can contribute to the transformation of mercury to methylmercury. The study of methlymercury in wetlands is at a very early stage and may take years of research before any tangible results are obtained.

The permittee states that the increased wetting and drying of the ponds would pose a methylmercury concern only if the existing mercury levels in the ponds exceed applicable RWQCB standards for wetlands. The permittee sampled mercury concentrations in Ponds 1 through 8, as well as at several other locations along the Napa River and Napa Slough. While the samples showed variability within the ponds, the average samples for all of the ponds had mercury levels below the 1992 RWQCB criterion for wetland cover material, as well as below the standards set in the RWQCB's 2000 Draft Guidelines for mercury. However, most research thus far has shown that total mercury levels at a site is an unreliable predictor of potential methylmercury production.

The RWQCB Orders issued for the project requires the permittee to submit and receive Board approval of a Self-Monitoring Plan. As part of this plan, the permittee will be required by the Board to implement a methylmercury monitoring program. The RWQCB Orders also requires the permittee to implement those measures contained in

the Corps' MAMP. With regards to methylmercury, the MAMP requires that contaminant monitoring using indicator fish and bird species be conducted once a year during Years 0, 2, 4, 6, 8, 10, 12 and 14 following Ponds 1-5 project construction, and twice a year after the breaches at the Napa Plant Site. ~~As described above, implementation of the MAMP depends on obtaining future funding by Congress.~~

Special conditions have been included in this authorization to ensure that methylmercury at the site is monitored. Special Condition II-F-3 requires the permittee to submit and receive Commission approval of a methylmercury monitoring plan prior to commencing project construction. Special Condition II-F-3 further requires the permittee to make the project site available to researchers and scientists and to encourage further methylmercury research at the site.

At this time, it is uncertain what measures can be taken to remedy methylmercury if it accumulates at the site in lieu of halting levee breaching and subsequent restoration activities. Implementation of the project will provide thousands of acres of habitat for numerous fish, wildlife, bird and plant species. It will provide several positive water quality functions and will increase the Bay surface area. The project will also prevent the uncontrolled release of saline waters into the Napa River due to an uncontrolled levee breach. To provide information on methylmercury that will be used to guide levee breaching and restoration at Ponds 4 and 5, Special Condition II-F-3-(b) has been included in this authorization. This special condition requires the permittee to study methylmercury accumulation in Ponds 1, 2A and 3 prior to breaching levees at Ponds 4 and 5. If monitoring results indicate that methylmercury accumulation in these ponds are at levels that could pose significant risks to Bay wildlife and fish, as determined by the Technical Advisory Committee, then breaching activities in Ponds 4 and 5 and at the Napa Plant Site shall be delayed until such time that more information has been gathered and techniques can be employed to remedy excessive methylmercury concentrations in marshes.

The Commission finds that, by implementing those requirements contained in the RWQCB Orders issued for the project, as well as Special Conditions contained in this authorization, potential impacts from methylmercury accumulation will be reduced.

G. **Priority Use Designation.** The amended project site is identified as a salt pond/managed wetland and is designated as a wildlife refuge on Bay Plan Map No. 2. The project is consistent with the priority use designation of the site because the site will continue to be managed and will be improved for wildlife, fish and plants. The fundamental project goal is to enhance the area for a variety of species while limiting the amount of management needed to sustain the system.

The Commission finds that the project is consistent with the priority use designation for the site.

H. Since authorizing Material Amendment No. One, the Commission has adopted Bay Plan policies on climate change. Below is a discussion of the policies that were in place upon the authorization of Material Amendment No. One (sea level rise and safety of fills) and those currently in place and that are applicable to Material Amendment No. Three (climate change).

Sea Level Rise and Safety of Fills. The Napa Plant Site restoration project includes public access and recreation areas throughout the site. Section 66605(e) of the McAteer-Petris Act states: "That public health, safety and welfare require that fill be constructed in accordance with sound safety standards which will afford reasonable protection to persons and property against the hazards of unstable geologic or soil conditions or of flood or storm waters;" The Bay Plan policies on the safety of fills state in part that, "[t]o

prevent damage from flooding, structures on fill or near the shoreline should have adequate flood protection including consideration of future relative sea level rise as determined by competent engineers."

Additionally, the policies state that, "[t]o minimize the potential hazard to Bay fill projects and bayside development from subsidence, all proposed development should be sufficiently high above the highest estimated tide level for the expected life of the project or sufficiently protected by levees…".

Further, the policies state that, "[l]ocal governments and special districts with responsibilities for flood protection should assure that their requirements and criteria reflect future relative sea level rise and should assure that new structures and uses attracting people are not approved in flood prone areas or in areas that will become flood prone in the future, and that structures and uses that are approvable will be built at stable elevations should assure long-term protection from flood hazards." Section 66632.4 of the McAteer-Petris Act authorizes the Commission to deny a permit application only if the proposed project fails to provide maximum feasible public access consistent with the project.

Finally, the Bay Plan policies on Salt Ponds also state that "Any project for the restoration, enhancement or conversion of salt ponds to subtidal or wetland habitat should include clear and specific long-term and short-term biological and physical goals, success criteria, a monitoring program, and provisions for long-term maintenance and management needs. Design and evaluation of the project should include an analysis of: Flood management measures." (Policy 3c.)

The permitee states, "The Department of Fish and Game has coordinated with Napa County public works and flood control staff regarding the project. This project does not include bay fill/bayside development in the traditional sense. The fill (aside from the levee tops which is outside the Commission's jurisdiction) is to expedite germination of wetland plants and to raise the potential future runway safety area out of wetland jurisdiction. In order to address the issue of Flood Management the permitee states, "no structures are proposed in the project. The site is in the FEMA 100-year flood zone and the completed restoration project will continue to be in this flood zone. The levees separating the salt ponds from the Napa River provided de facto flood protection for land east of the project site and the proposed project design would maintain existing levels of flood protection for neighboring properties. Concurrent with the levee breaching, levee crest elevations will be raised where necessary to a minimum elevation of 10 feet NAVD 88, to maintain the same level of flood protection as was provided by the salt pond's original river front levees". In order to test whether the public access improvements would be protected from a rise in sea level the applicant calculated the following scenario using the impacts of climate change on the project site over a fifty-year period. The rates of sea level rise are generally consistent with the range of scenarios included in the 2006 California Climate Action Team Report to California's Governor.

Mean Higher High Water (MHHW) for the site is 6.2 feet (NAVD '88). Given a sea level rise at current rates over a fifty-year period even a higher rate of 0.33 in (8.4 mm) per year or 16.5 inches (1.4 feet) over 50 years would still would result in MHHW at 7.6 feet (6.2'+1.4') with approximately 2.4 feet of freeboard. Under this scenario the public access trails would remain accessible.

To ensure that the maximum feasible public access is consistent with and maintained for the life of the project, Special Condition II-C-8 requires the permittee to maintain the public access improvements authorized herein in the event of future flooding. Further, Special Conditions II-A and II-K require the permittee to obtain Commission review and

approval of engineering plans related to the project prior to the commencement of activities authorized herein and, thereby, ensures that these improvements will be constructed in accordance with sound safety standards. For the reasons stated above, the Commission finds that the project is consistent with the Bay Plan policies on safety of fills and policies related to sea level rise.

Climate Change. The Bay Plan policies on "Climate Change" state that, "[u]ntil a regional sea level adaptation strategy can be completed, the Commission should evaluate each project proposed in vulnerable areas on a case-by-case basis to determine the project's public benefits, resilience to flooding, and capacity to adapt to climate change impacts. The following specific types of projects have regional benefits, advance regional goals, and should be encouraged, if their regional benefits and their advancement of regional goals outweigh the risk from flooding…(d) a natural resource restoration or environmental enhancement project…."

The public benefits of the proposed project are numerous. Project improvements will enhance the ability to manage the site for wildlife and fish purposes, will protect and enhance areas that currently provide habitat for several species, some of which are federally-endangered, and will provide interesting and unique public access opportunities to a remote area of the Bay.

The project will result in the raising and strengthening of existing embankments. The specifications for the embankment improvements were generated using 100-year flood FEMA maps, a wave run-up analysis and the 100-year storm event stage volume to determine the appropriate heights and slopes for the embankments. Over time, if sea level rose such that it became too difficult and costly to maintain the embankments to prevent intrusion of tidal waters and the embankments were overtopped or breached, the site would continue to provide valuable wildlife and fish habitat, although of a different kind than currently envisioned.

It is uncertain whether the public access that is currently proposed could withstand the effects of future sea level rise. Special Condition II-C-5-b has been included in this amended authorization to ensure that public access to the site will be provided in the event that the proposed access is damaged due to the effects of sea level rise by requiring that California Department of Fish and Game provide alternative public access along the inland boundaries of these lands should future sea level rise eliminate or diminish the public access required in this authorization.

The Commission finds that the project is consistent with the Bay Plan policies on Climate Change.

I. **Engineering Criteria Review Board (ECRB) and the Design Review Board (DRB).** The project was not reviewed by the ECRB because it did not raise engineering issues of significant concern.

The Commission's Design Review Board (DRB) reviewed the Napa Plant site (Material Amendment No. One) project on June 11, 2007. At that meeting, several members of the public raised concerns that the permittee was not proposing a public access trail along the southern edge of Ponds 9 and 10 that could connect to a future regional trail network. The DRB recommended that this section of the trail be provided as part of the project, unless the U.S. Fish and Wildlife Service determined that developing a trail in this location would have an adverse effect on wildlife using the site. The DRB also determined that should it be infeasible to provide the trail along Ponds 9 and 10, the permittee had an adequate amount of public access. In response to the DRB's recom-

mendations and because USFWS did not determine that such a trail segment will adversely impact wildlife use of the site, the permittee revised its public access proposal to include a public access trail along the southern edge of Ponds 9 and 10.

The Commission's Design Review Board (DRB) reviewed public access associated with the embankment of Ponds 6, 6A, 7, 7A and 8 on August 9, 2010. The DRB commented that the public access was in keeping with the natural setting of the site and appeared to be consistent with the anticipated use of the site. The Board recommended that rustic seating be installed at the southern tip of the Pond 7/7A public access trail. The project proponents have complied with this recommendation and plan to install such seating at this location.

J. **Amendment No. Two.** Amendment No. Two authorizes several improvements at Pond 1, as well as improvements associated with the Cullinan Ranch Restoration Project (authorized under Amendment No. One to CN 5-04) that are located on land partially owned by the CDFG. The improvements at Pond 1 consist of excavating up to 100,000 cubic yards of sediment to improve circulation in the Pond and raising a 7,000-foot-long section of levee along the eastern perimeter of Pond 1 to 8.0 feet NGVD. The sediment excavated from Pond 1 will likely be used to raise elevations at Cullinan Ranch to those suitable for marsh vegetation and is authorized under Amendment No. One to CN 5-04. In addition to excavation and levee improvements, two water control structures will be installed to allow for better water management in the Pond. The improvements associated with the Cullinan Ranch Restoration Project that occur on land partially owned by the CDFG and which are thus, authorized herein include the construction of the following: a public access viewing platform near the parking area; a public access overlook at the north end of the Pond 1 levee; levee trail improvements; a pile-supported fishing pier; a kayak launch; and an acceleration and deceleration lane adjacent to Highway 37 that will allow for improved access to the Pond 1 public access parking lot. As such, the improvements authorized under Amendment No. Two consist of: new dredging of 200,000 cubic yards or less completed within a period of 10 years, consistent with Regulation Section 10602(b); repairs to protective works in the minimum amount necessary to stabilize existing dikes or to provide improved wildlife habitat consistent with Regulation Section 10601(c)(2); and the placement of small amounts of inert, inorganic material with no effect on present or future maximum feasible public access to the Bay or Bay resources, consistent with Regulation Section 10601(b)(1). In addition, the improvements are activities similar to activities in 10601(a), (b) and (c), with no greater adverse impact on the Bay, consistent with Regulation Section 10601(e)(3), as well as the placement of minor fill for improving public access, consistent with Regulation Section 10601(a)(8) and are thus, considered "minor repairs or improvements" for which the Executive Director may issue an amendment to an existing permit consistent with Regulation Section 10822 and Government Code Section 66632(f).

The project authorized under Amendment No. Two is consistent with the San Francisco Bay Plan and the McAteer-Petris Act because it will not adversely affect the Bay, enjoyment of the Bay or maximum feasible public access to the Bay. In the original project, two kayak pull-outs (launches) were authorized and required in Pond 1, on the west side of the Pond 1 levee, in order to find the project consistent with the McAteer-Petris Act and the Commission's public access policies. Since authorization of the original project, the Cullinan Ranch Restoration Project (located on the east side of the Pond 1 levee) has been authorized by the Commission. In siting the public access amenities associated with the Cullinan Ranch project, it was determined that a more advantageous location for a kayak launch would be on the Cullinan Ranch side of the Pond 1 levee due to the shallow depths in Pond 1 and because kayak access to South Slough and Dutch-

man Slough would be possible. In addition, it was determined that instead of two, smaller launches, one large launch was the most practicable given the site location. Thus, in order to ensure that the original project is consistent with the Commission's laws and policies, the amended permit has been revised to reflect the new location and size of the launch.

K. **California Environmental Quality Act (CEQA) and National Environmental Protection Act (NEPA).** On May 3, 2004, the CDFG, the CEQA lead agency for the original project (Ponds 1-5), certified the EIR component of the *Napa River Salt Marsh Restoration Project EIS/EIR*. The U.S. Army Corps of Engineers, the NEPA lead agency for the project, issued a Record of Decision on the EIS component of the document on December 22, 2004.

In November, 2006, the California Department of Fish and Game ("CDFG") certified an environmental impact report (EIR) for the project and adopted CEQA findings as part of associated project approvals [Resolution No. 06-10661.

CDFG also adopted CEQA findings ("findings"), including the adoption of a mitigation and monitoring program and other measures that address environmental issues pertaining to activities subject to the permits granted by the Commission, RWQCB, and the U.S. Army Corps of Engineers. Those include impacts to air quality, water resources and quality, cultural resources, land use and recreation. CDFG adopted mitigation measures addressing these topics, implemented through the associated and approved habitat mitigation monitoring program, and found that with these mitigation measure the project would avoid or substantially lessen each potentially significant effect as identified in the EIR. CDFG determined that with the implementation and adoption of their habitat mitigation and monitoring plan

In addition, as discussed above, the Commission has also adopted and incorporated into the proposed Commission permit special conditions to address effects of the project on the Commissions Salt Ponds and Certain Waterways jurisdiction, including impacts related to fill, public access, water quality, and safety of fills. Based on the special conditions, the Commission finds the proposed project, will not have significant adverse effects. With respect to other significant impacts identified in the EIR, the changes or alterations necessary to avoid or substantially lessen the impacts have been adopted by the CDFG and incorporated into the project that is the subject of this permit. Therefore, the Commission finds that the proposed project as conditioned is consistent with the requirements of CEQA.

L. **Conclusion.** For all of the above reasons the Commission finds, declares and certifies that subject to the Special Conditions stated herein, the project authorized herein is consistent with the *San Francisco Bay Plan*, the McAteer-Petris Act, the Commission's Regulations, the California Environmental Quality Act, and the Commission's Amended Management Program for the San Francisco Bay segment of the California coastal zone.

IV. Standard Conditions

A. **Permit Execution**. This amended permit shall not take effect unless the permittee executes the original of this amended permit and returns it to the Commission within ten days after the date of the issuance of the amended permit. No work shall be done until the acknowledgment is duly executed and returned to the Commission.

B. **Notice of Completion**. The attached Notice of Completion and Declaration of Compliance form shall be returned to the Commission within 30 days following completion of the work.

C. **Permit Assignment**. The rights, duties, and obligations contained in this amended permit are assignable. When the permittee transfers any interest in any property either on which the activity is authorized to occur or which is necessary to achieve full compliance of one or more conditions to this amended permit, the permittee/transferor and the transferee shall execute and submit to the Commission a permit assignment form acceptable to the Executive Director. An assignment shall not be effective until the assignee executes and the Executive Director receives an acknowledgment that the assignee has read and understands the amended permit and agrees to be bound by the terms and conditions of the amended permit, and the assignee is accepted by the Executive Director as being reasonably capable of complying with the terms and conditions of the amended permit.

D. **Permit Runs With the Land**. Unless otherwise provided in this amended permit, the terms and conditions of this amended permit shall bind all future owners and future possessors of any legal interest in the land and shall run with the land.

E. **Other Government Approvals**. All required permissions from governmental bodies must be obtained before the commencement of work; these bodies include, but are not limited to, the U. S. Army Corps of Engineers, the State Lands Commission, the Regional Water Quality Control Board, and the city or county in which the work is to be performed, whenever any of these may be required. This amended permit does not relieve the permittee of any obligations imposed by State or Federal law, either statutory or otherwise.

F. **Built Project must be Consistent with Application**. Work must be performed in the precise manner and at the precise locations indicated in your application, as such may have been modified by the terms of the amended permit and any plans approved in writing by or on behalf of the Commission.

G. **Life of Authorization**. Unless otherwise provided in this amended permit, all the terms and conditions of this amended permit shall remain effective for so long as the amended permit remains in effect or for so long as any use or construction authorized by this amended permit exists, whichever is longer.

H. **Commission Jurisdiction**. Any area subject to the jurisdiction of the San Francisco Bay Conservation and Development Commission under either the McAteer-Petris Act or the Suisun Marsh Preservation Act at the time the amended permit is granted or thereafter shall remain subject to that jurisdiction notwithstanding the placement of any fill or the implementation of any substantial change in use authorized by this amended permit. Any area not subject to the jurisdiction of the San Francisco Bay Conservation and Development Commission that becomes, as a result of any work or project authorized in this amended permit, subject to tidal action shall become subject to the Commission's "bay" jurisdiction.

I. **Changes to the Commission's Jurisdiction as a Result of Natural Processes**. This amended permit reflects the location of the shoreline of San Francisco Bay when the permit was issued. Over time, erosion, avulsion, accretion, subsidence, relative sea level change, and other factors may change the location of the shoreline, which may, in turn, change the extent of the Commission's regulatory jurisdiction. Therefore, the issuance of this amended permit does not guarantee that the Commission's jurisdiction will not change in the future.

J. **Violation of Permit May Lead to Permit Revocation**. Except as otherwise noted, violation of any of the terms of this amended permit shall be grounds for revocation. The Commission may revoke any amended permit for such violation after a public hearing held

on reasonable notice to the permittee or its assignee if the amended permit has been effectively assigned. If the amended permit is revoked, the Commission may determine, if it deems appropriate, that all or part of any fill or structure placed pursuant to this amended permit shall be removed by the permittee or its assignee if the amended permit has been assigned.

K. **Should Permit Conditions Be Found to be Illegal or Unenforceable**. Unless the Commission directs otherwise, this amended permit shall become null and void if any term, standard condition, or special condition of this amended permit shall be found illegal or unenforceable through the application of statute, administrative ruling, or court determination. If this amended permit becomes null and void, any fill or structures placed in reliance on this amended permit shall be subject to removal by the permittee or its assignee if the amended permit has been assigned to the extent that the Commission determines that such removal is appropriate. Any uses authorized shall be terminated to the extent that the Commission determines that such uses should be terminated.

L. **Permission to Conduct Site Visit**. The permittee shall grant permission to any member of the Commission's staff to conduct a site visit at the subject property during and after construction to verify that the project is being and has been constructed in compliance with the authorization and conditions contained herein. Site visits may occur during business hours without prior notice and after business hours with 24-hour notice.